JUNE 29, 1959

PAPER TRADE JOURNAL

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PUBLISHED WEEKLY SINCE 1872

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R. E. THUEMMES
Associate Editor

HARRY L. DYER
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K. E. PATTERSON
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L. HAMEL
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Staff Artist

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REMEMBER THESE DATES

September 9-11. TAPPI Fundamental Research Conference, Institute of Paper Chemistry, Appleton, Wis.

September 21-23. Paper-Plastics Conference, Edgewater Beach Hotel, Chicago, Ill.

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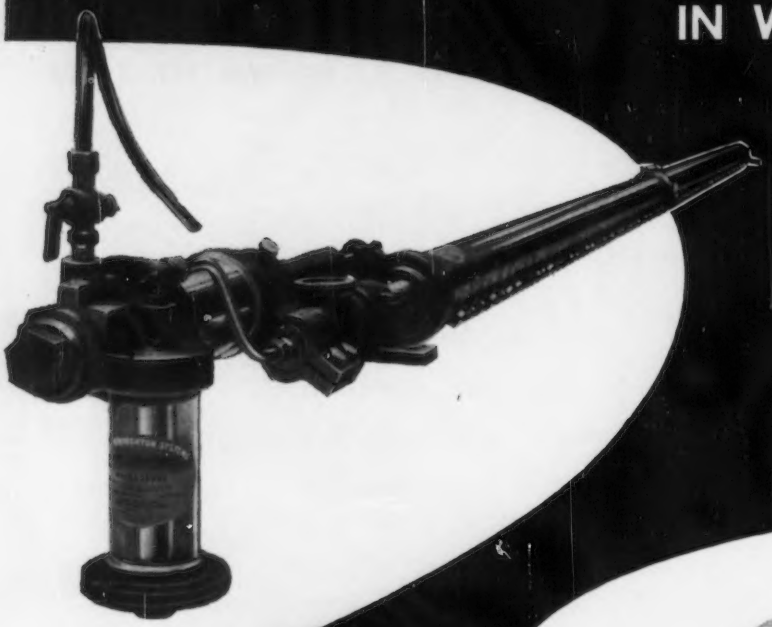
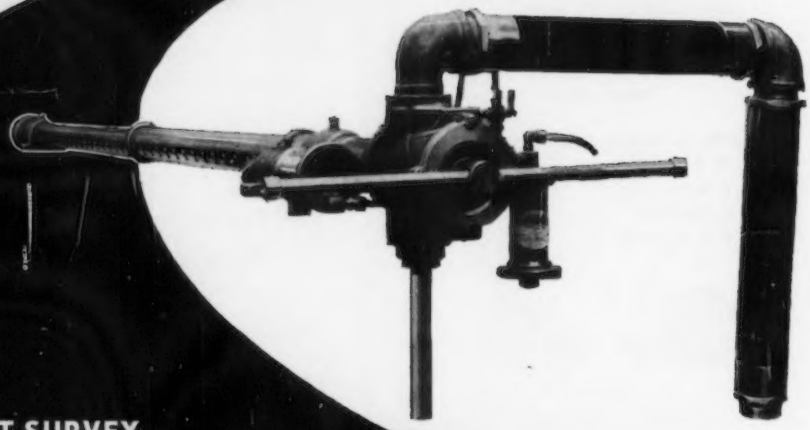


This is the rule, not the exception, with mills using BROUGHTON oscillating fresh water and whitewater showers



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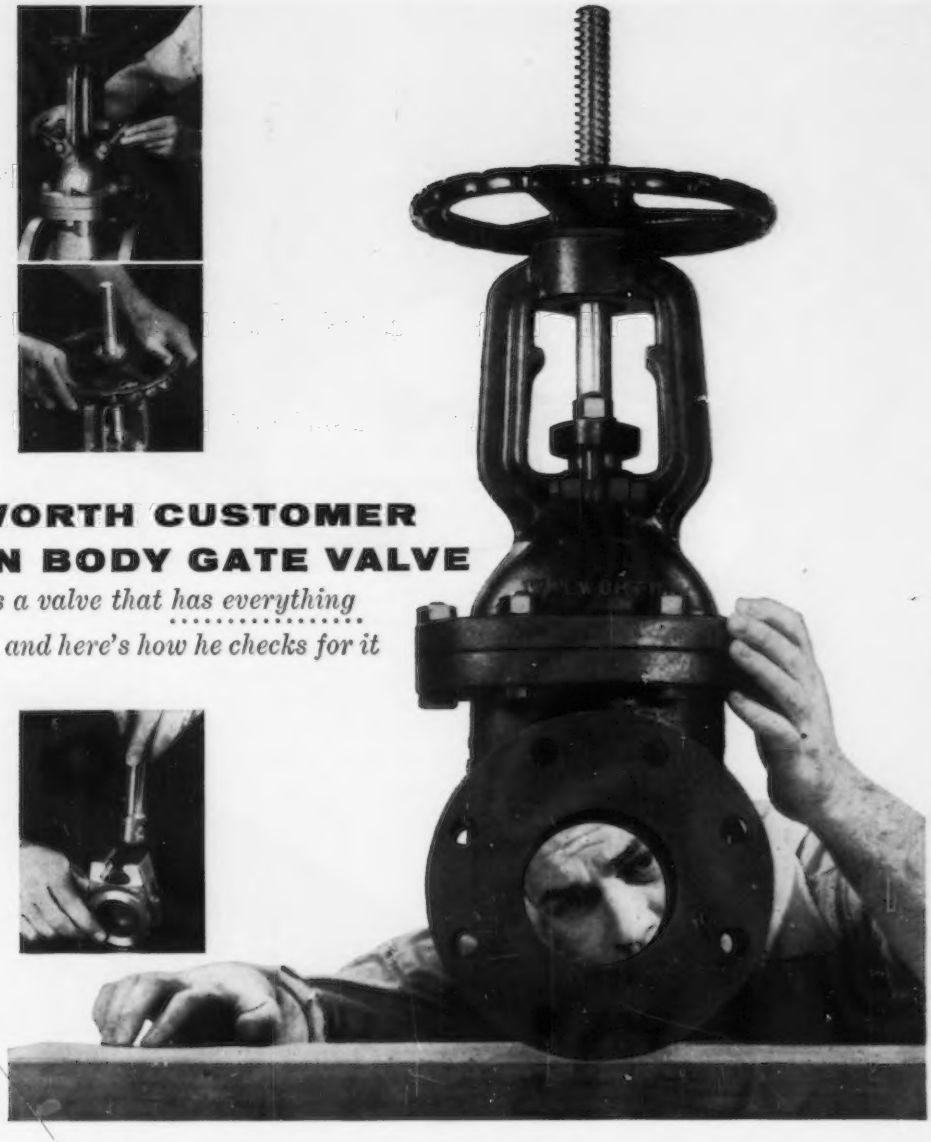

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Trends

Papers Show Varying Production Increases

Variation in the rate of production increase for various grades of paper in the first four months of this year, as compared with the same period in 1958, are as follows: Fine Papers +11%, Coarse +9%, Printing +8%, Tissue +7%, Newsprint +6%. For comparison the increase for all grades of paperboard was 13%.

U. S. Pulp Imports Are Away Up

Total United States imports of wood pulp (including dissolving) for the first third of this year are 24% ahead of same period a year ago, according to the Bureau of the Census. Imports from Europe are up 73% (European pulp imports did not quite equal 10% of the U.S. consumption of market pulp for the period). Imports of Canadian pulp were up 16% over the same period in 1958.

Folding Boxes Continue Advance

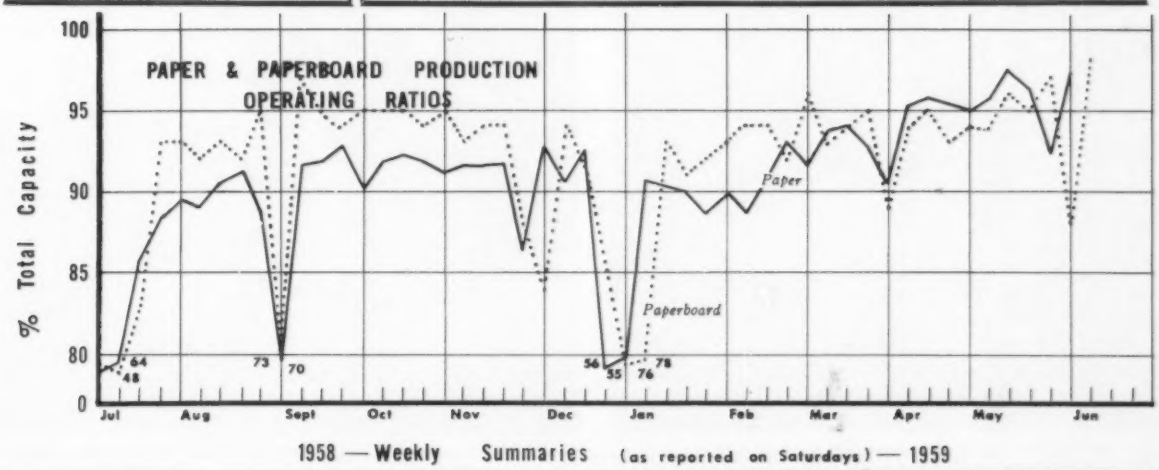
Shipments of folding boxes continued to advance in May. Dollar volume for the month topped year-ago figures by 2.3% while tonnage was up 1.5%, the Folding Paper Box Assn. of America announces. A five-month year-to-year comparison shows 1959 shipments of folding boxes lead 1958 shipments by 3.3% in dollar volume and 3.0% in tonnage. During the first five months of 1959 the industry shipped 952,236 tons of cartons. Shipments for this period last year amounted to only 929,918 tons. However, the volume this year still trails the record-setting pace of 1957 when 984,563 tons were shipped.

Roofing Products Show Big Gain

Shipments of roofing and siding products show substantial gains for the first third of this year compared with last. Asphalt products were up as follows: roofing 20%, siding 12% and board products 59%. Insulated siding was up 4%.

Waste Paper Markets Unchanged

Waste paper markets have been steady and unchanged. Supply situation will be improved as a number of mills begin their regular summer practice of vacation shutdowns.

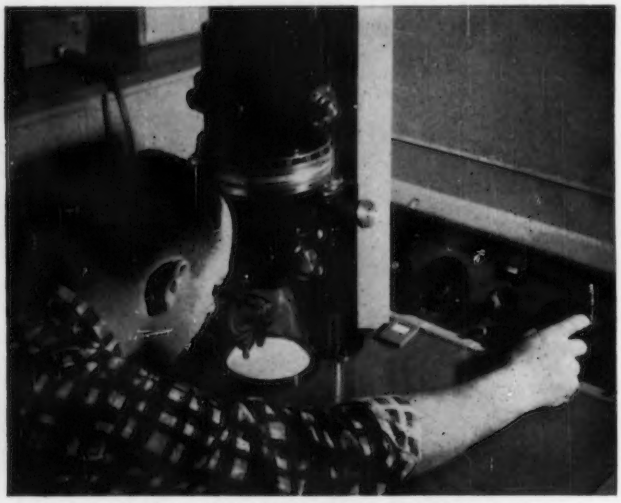


How Koppers helps you make better coatings

This photo-tour gives you a brief look at Koppers research and development facilities—facilities that are designed to help develop new and better styrene-butadiene latices for the paper industry.

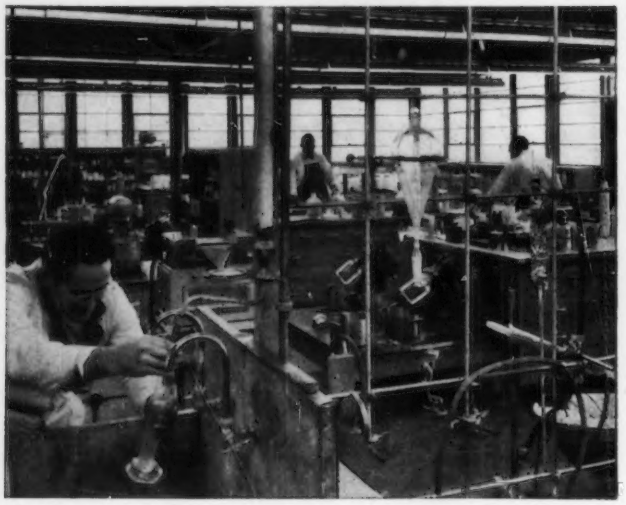
1. Koppers new Kobuta Development Laboratory.

2. Here, coatings made from DYLEX K-52 and a conventional latex take photo comparison test.

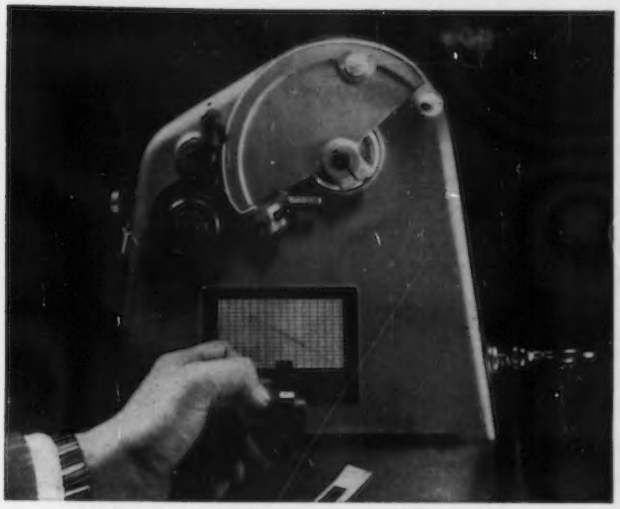


3. Latices are first checked for particle size in the Electron Microscope. Uniformity is essential for fine coatings.

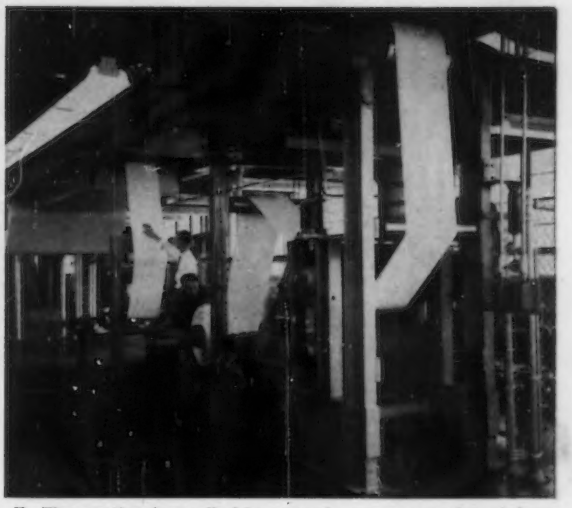
4. The Instron Tester—this instrument measures tensile and flexural strength of coated paper, or films for coated paper.



5. When the coating passes these tests, it's ready for the Paper Applications Laboratory.

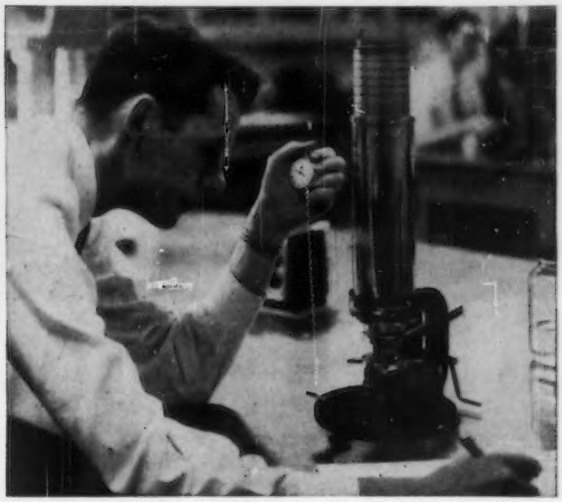


6. The IGT pick test determines the adhesive strength of the coating.

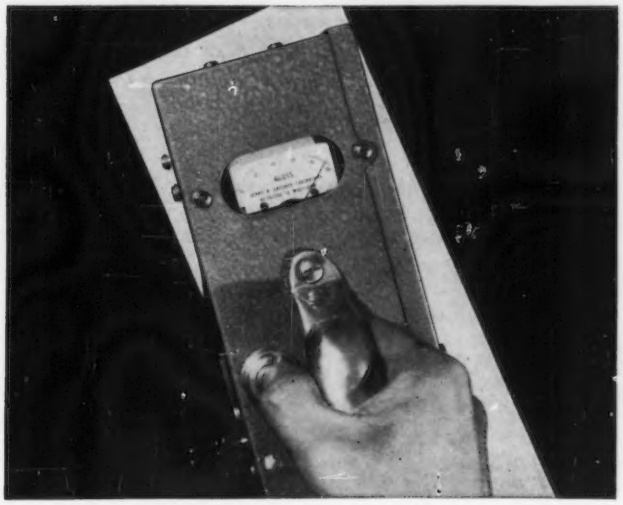


7. The coating is applied to paper in a new experimental paper coater. This machine **actually duplicates** mill conditions.

8. The Tabor Abrasor determines the wet rub resistance of the coating.



9. After the sheets have been calendered and tested for pick resistance, they are checked for smoothness.



10. Here, quality coated paper is carefully checked for gloss.

So far, Koppers extensive research and development program has produced two outstanding paper latices:

DYLEX K-52—for conventional clay coatings.
DYLEX K-85—for specialty papers requiring an extremely high gloss.

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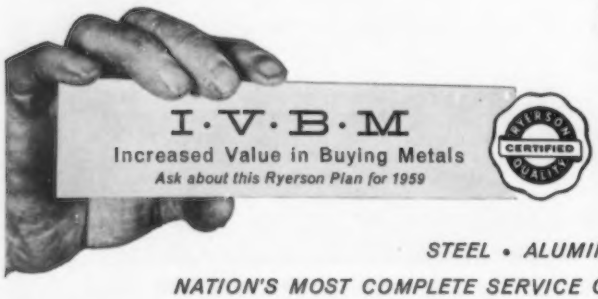

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PAPER TRADE JOURNAL

WEEK OF JUNE 29, 1959

First Board Mill Planned for Montana

A fourdrinier machine to produce liner board is to be installed at the unbleached kraft pulp mill of Waldorf Paper Products Co. at Missoula, Mont. The pulp mill which has been producing dried pulp is jointly owned by Waldorf Paper Products Co. (75 per cent) and Hoerner Boxes, Inc. (25 per cent). The new installation will be jointly owned by the two companies on a fifty-fifty basis.

The machine is expected to be in production by late 1960. The companies when contacted by PAPER TRADE JOURNAL declined to provide further information until "final contract negotiations have been completed."

It is not clear if the new machine will supplant the pulp drying operation or if new pulping capacity will be added. Presumably Hoerner will take a substantial portion of the new machine's output of board.

Price Bros. Makes Offer for J. C. Wilson

Price Brothers & Co., Ltd., has made an offer to purchase all of the 165,750 outstanding shares of J. C. Wilson, Ltd., at a price of $16 per share.

Announcement of the offer was made jointly by A. C. Price, president of Price Brothers, and F. H. Wilson, president of J. C. Wilson Ltd.

The offer, which will remain open for acceptance until July 31st next, is subject to the condition that Price Brothers will not be bound to buy any of the stock of J. C. Wilson unless its offer is accepted to the extent of 60 per cent or more of the shares outstanding.

J. C. Wilson, Ltd., has a paper mill at Lachute, Que., about 50 miles northwest of Montreal and a pulp mill a few miles away at St. Jerome, Que. The paper mill has three paper machines, a 77-inch Harper, an 86-inch fourdrinier and a 94-inch Harper, and produces about 36 tons per day. Products are wrapping paper, paper bags and towels. The firm has a box plant in Lachute and also has two subsidiaries, the Ratcliff Paper Co. in Toronto, and the Windsor Paper Co. in Windsor, Ont.

Erving Paper Mill Explosion Injures Four

An explosion caused by a workman accidentally dropping a lighted match into cleaning fluid, at the Erving Paper Mills sent four men to the hospital and caused considerable damage to several electric motors and started a fire which burned through the roof over one of the paper machines.

The men were cleaning machine felts with a cleaning fluid which is mixed with water and considered comparatively 'safe, but the match was dropped into an explosive fluid, apparently after lighting a cigaret.

The Erving Fire Department brought the resulting blaze under control but had some difficulty as tar from the flat roof melted and came through to add fuel to the blaze.

There was no major damage to the paper machine, scheduled to be back in operation after a few days.

Australian Paper Manufacturers Ltd. has just announced that it is installing an Inverform wet end on its existing board machine at Petrie. The equipment is being manufactured by Walmsley's (Bury) Ltd. of England. The radical Inverform principle was described in the June 22 issue of Paper Trade Journal.

New Manufacturing Division Established by Hudson

A specialty paper division has been established by Hudson Pulp & Paper Corp., with manufacturing facilities located at Bellows Falls, Vt.

Fred Streit, former manager of technical services, has been given responsibility for planning the manufacturing and marketing of specialty papers.

Facilities at the Bellows Falls mill enable Hudson to produce a broad and varied line of specialty papers. Among those papers already in production are shrink proof paper, latex impregnated papers, creped kraft papers, bleached and semi-bleached specialty papers and colored specialty papers.

Price Bros. May Expand Jonquiere Mill

Price Bros. & Co. is investigating the possible expansion of its Jonquiere, Que., paperboard mill. Capacity of the mill, from two cylinder machines, is 30,000 tons annually of top grades of board. Extent of the possible modernization and expansion will await the outcome of studies now being undertaken.

Paper and Board Production

According to the American Paper and Pulp Ass'n., the ratio of the United States production to mill capacity for the week ending June 14, 1959, was 95.0 per cent compared with 93.7 per cent revised for the preceding week. The ratio was 88.4 per cent for the corresponding week a year ago.

The paperboard production ratio for the week ending June 14, 1959, was 98 per cent compared with 88 per cent for the preceding week and 90 per cent for the corresponding week a year ago.

(Detailed statistics on page 49.)

From left to right are: Mrs. Francis Mallett, Francis Mallett, Eugene H. Clapp, president of the Penobscot Chemical Fibre Co., and the Wentworth Scholarship Award recipient, Edward Mallett.

Wentworth Award Won by Edward Mallett

Edward F. Mallett, Old Town, Me., is the recipient of the Walter V. Wentworth Scholarship, sponsored by the Penobscot Chemical Fibre Co. Mr. Mallett's father is a tinsmith at present at the Penobscot Chemical Fibre Co., and has been a member of the sulphite and yard repair crews.

The award carries a cash award of $400 and is presented to the son or daughter of a non-supervisory employee of the company. The award was made at the annual Penobscot Chemical Fibre Co. management dinner by Eugene H. Clapp, president.

The members of the Scholarship Committee include: Edward W. Keith, vice president and manager of mills, of the Penobscot Chemical Fibre Co., Maurice Gray, and John Abbott, principal of Old Town High School.

Another (!) Newsprint From Waste Paper Process

The Chicago Sun-Times claims to have a process for producing newsprint from waste paper. The development of the process for de-inking of waste paper through flotation to provide newsprint pulp is under way at the Manistique Pulp & Paper Co., Manistique, Mich.

After the waste paper has been repulped the pulp is transferred to a series of flotation cells, with chemical and frothing reagents. The tanks contain mechanism for agitating and aerating the pulp. As the aeration occurs at the base of the tank, bubbles covered with the re-agent having an affinity for ink, are formed and rise to the surface. The ink adheres to the bubbles and as the bubbles accumulate at the top of the tank, the ink scum is removed by a series of paddles.

Editor's Note: The manufacture of newsprint from waste paper has long been technically feasible providing a good grade of waste is used. The economics of the de-inking operation and the running of the stock on high speed machines have, in the past, proven the downfall of processes similarly announced.

St. Regis Improving Deferiet Mill

St. Regis Paper Co. announces a two million dollar modernization program at its Deferiet, N. Y., mill. This includes addition of a two-stage bleach plant for 150 tons of groundwood daily, replacement of groundwood deckering system, and machine improvements.

The new bleaching capacity is to meet the demand for higher brightness in publication papers. The machine winders on three of the paper machines are being replaced or rebuilt. A new Centri-screen will be added to the No. 1 machine as will a new suction couch and new suction boxes. A mass production sheet finishing line is being added.

Newsprint Production and Consumption Hit New High

Production of newsprint in North America during May 1959 amounted to 723,713 tons and was 3.8 per cent above the May 1958 volume. Shipments totaled 755,918 tons in May 1959 and were 6.8 per cent greater than shipments in the corresponding month of 1958. According to the Newsprint Service Bureau, output in the United States reached the highest monthly level on record of 172,396 tons while shipments amounted to 166,773 tons, and respective gains over May 1958 amounted to 15.7 per cent and 13.7 per cent. Canadian production amounted to 551,317 tons and shipments totaled 589,145 tons, which represents increases from May, 1958 of 0.6 per cent and 4.9 per cent respectively.

Production of newsprint paper in North America in the first five months of 1959 amounted to 3,365,534 tons, which was 57,695 tons or 1.7 per cent above the level attained in the same period of 1958. Cumulative output of United States mills at the end of May 1959 totaled 810,661 tons —an all-time high for this period— and was 67,248 tons or 9.0 per cent more than the volume produced a year earlier. Canadian production amounted to 2,554,873 tons and was 9,553 tons or 0.4 per cent lower than in the first five months of 1958.

U. S. newsprint consumption in May increased for the fifth consecutive month in 1959 and reached a new high for any single month, as well as for any first five month period according to the American Newspaper Publishers Assn.

ANPA reporting newspapers in May 1959 consumed 10.5 per cent more than in May, 1958 and 3.9 per cent over May 1957. Consumption for first five months of 1959 was 6.9 per cent over the 1958 period; 1.0 per cent more than 1957 period; and 0.5 per cent over the previous record high first five months, in 1956.

Largest Roofing Felt Plant Still Growing

The world's largest roofing felt plant is growing a little bigger. The Ruberoid Co., manufacturer of building materials, is completing construction of a finished product warehouse that will add approximately 20,000 square feet to the several acres now utilized for the production of dry felt at its Gloucester City, N. J., plant. The Gloucester plant, one of seven felt mills operated by Ruberoid in various parts of the United States, has an annual capacity of some 80,000 tons of felt, a material for asphalt roofing and hard floor covering.

As the country's largest producer of asphalt roofing, Ruberoid uses a major portion of the Gloucester plant's output for its own production of asphalt roofing and siding at several of its plants in the eastern and southern parts of the country. The balance of felt production at the Jersey plant is sold to other customers on long term contracts.

PAPER PEOPLE

Ungern Joins Personal Products Cel-Fibre Div.

Erik Ungern has joined the Cel Fibe Division of Personal Products Corp., Milltown, N. J., and has been appointed assistant production manager.

Mr. Ungern will work under the supervision of N. G. McLean, production manager in charge of all three Cel-Fibe mills. He will have special responsibilities in programs of technical improvement at the Milltown plant and expanded production at the recently acquired Stonebridge plant in Wilmington, Ill.

Mr. Ungern was a mill superintendent in his native Finland after completing his training at the Paper Institute in Darmstadt, Germany. Following further technical experience in Canada, he came to the United States to join the production staff of the Scott Paper Co. During five years with Scott, he helped set up new mills in Mexico and England. His last connection prior to accepting the Cel-Fibe post was as technical director of the Lee Paper Co., Vicksburg, Mich.

Hapco Official Gets Promotion

H. W. Ellerson, Jr., vice president of Halifax Paper Co., was elected a director of the Albemarle Paper Manufacturing Co. at the annual meeting of Albemarle stockholders in Richmond.

Mr. Ellerson has been with the Albermarle organization for 20 years. Upon graduation from Virginia Military Institute in 1939 he was employed by Albemarle in Richmond and, in January 1940, was transferred to the Halifax Paper Co. division in Roanoke Rapids as a chemist.

Except for an interruption for a tour of military service, he served successively as foreman, personnel manager and pulp mill superintendent and in 1948 was appointed general superintendent.

Elected a vice president of Halifax in 1956, Mr. Ellerson joins K. F. Adams, Hapco executive vice president, as the second Halifax executive on Albemarle's board.

T. L. Stirling

Perkins-Goodwin Appoints Stirling Dir. of Marketing

Louis Calder, Jr., president of Perkins-Goodwin Co., international pulp and paper marketing-management organization, has announced the appointment of Thomas L. Stirling as director of marketing—paper division, effective July 1st.

Mr. Stirling was formerly vice president in charge of sales of the Champion-International Co. of Lawrence, Mass., and continued as sales manager at the Lawrence mill when the property was acquired by the Oxford Paper Co. in 1958. Prior to his association with Champion-International he was vice president and a director of the LaSalle Paper Co. in Chicago.

A 1925 graduate of Cornell University, Mr. Stirling's long years of service and extensive experience have given him a wide knowledge of all aspects of the paper business. He will be located in the Perkins-Goodwin Co. New York City offices.

Ingalls Retires from Active Duty at Warren

Everett P. Ingalls, vice president in charge of manufacturing for the S. D. Warren Co., Westbrook, has retired from active duty.

Mr. Ingalls, mill manager from Dec. 8, 1948, to Feb. 6, 1957, has been vice president in charge of manufacturing since 1953. He will continue as an S. D. Warren director, a post to which he was elected in 1948.

A University of Maine graduate, Mr. Ingalls entered the paper industry in April 1916 with International Paper Co. After serving with the U. S. Army, he rejoined International in December 1918. From January 1931 to January 1933 he was manager of International Paper's Chisholm Mill, Livermore Falls, moving then to Palmer, N. Y., where he managed the same company's Hudson Mill until March 1935.

In March 1935 he joined S. D. Warren Co. as production superintendent and has been with the firm since.

Industrial Managers Elect Green President

W. Andrew Green, chief engineer of Manchester Board & Paper Co., is the new president of the Industrial Management Club of Richmond.

Other new officers are B. Holt Pollock, Albemarle Paper Mfg. Co., first vice president; I. F. Henshaw, chief engineer of Southern Steel & Stove Co., second vice president; Jerome P. Tunstall, general superintendent of Whittet & Shepperson, secretary; Henry Lemon, vice president of Apex Machine Co., treasurer, and Robert Alexander, superintendent of West Engineering Co., assistant treasurer.

Rayonier Fills Two Top Research Posts

Rayonier has filled its two top research posts with the appointments, effective July 1st, of R. Logan Mitchell as general manager of research for the chemical cellulose producer and subsidiaries, and George B. Creamer as assistant general manager. The office of general manager of research has been vacant at Rayonier since the death of Arthur N. Parrett in December 1956. The other executive research position is newly created.

Until his new appointment, Dr. Mitchell had been research manager at the firm's Eastern research division, Whippany, N. J.; while Dr. Creamer was manager of technical service, the company's scientific agency established to assist world cellulose-users in the application of Rayonier pulps to their specific needs.

A past chairman of the American Chemical Society's cellulose division, Dr. Mitchell is an internationally recognized cellulose authority, holding numerous patents covering viscose processes and surfactants. He joined Rayonier in 1938 as a chemist after several years of research work

with E. I. duPont de Nemours & Co. He earned his BA degree at Centre College of Kentucky and his PhD at the University of Buffalo, N. Y. Dr. Creamer joined the company in 1950 as a chemist at the Washington research station. He holds his PhD in chemistry from McGill University at Montreal, Canada, and both his BS and MS from the State University of New York, College of Forestry at Syracuse University.

Earl Becomes Finch, Pruyn Plant Manager

Appointment of Harry E. Earl as plant manager of Finch, Pruyn and Co., Inc., Glens Falls, N. Y., paper manufacturer, has been announced by Lyman A. Beeman, Sr., president. Mr. Earl, who remains director of purchasing, assumed his new duties May 1st.

Weyerhaeuser Pulp Makes Three Key Promotions

Promotions of three Everett men have been announced by Weyerhaeuser Pulp.

Alfred Graef has been appointed to a newly created staff position in which he will be responsible for reviewing the quality of all the paper grades of pulp produced and analyzing customers' pulp quality requirements.

A. A. Broz has been named technical director at the company's Everett sulphite mill and Robert M. Knight chief chemist.

Although his work will be with all the Weyerhaeuser market-pulp mills, Mr. Graef will continue to make his headquarters in Everett. His new office will be located in the Research Department building there.

Mr. Graef joined the company in Everett in 1940 as a pulp tester and at the time of this advancement was technical director of the local sulphite mill. He is a chemical engineering graduate of the University of Wisconsin and did his post-graduate work at the Institute of Paper Chemistry.

Mr. Broz, who succeeds Mr. Graef as technical director, joined the company in 1950 as a shift chemist. He earned degrees in both chemical engineering and industrial engineering from the University of Washington.

Robert Knight first worked for the company as laboratory helper during the summer months while attending the University of Washington. Except for three years, he has held the position of project chemist since graduation in 1949. He holds a BS degree in chemical engineering.

Container Corp. Names Reilly to New Post

The appointment of Dennis R. Reilly as purchasing agent, foreign division purchasing department, Container Corporation of America, has been announced. Mr. Reilly joined Container Corporation in 1955 as a buyer in the purchasing department. In 1958, when the foreign purchasing department was organized, he was appointed assistant purchasing agent.

W. R. Denman

Simpson Promotes Denman

Promotion of W. R. Denman, Jr., to sales manager for printing and fine papers effective May 25th has been announced by Simpson Paper Co., Everett, Wash.

Formerly administrative assistant for sales, Mr. Denman has been associated with the West Coast pulp and paper manufacturing concern for seven years. A graduate of the University of Washington, he started with Simpson as a laboratory technician, later becoming a salesman covering the Northwest territory out of the Seattle sales office. He returned to the Everett mill in 1954 when the quality control department was established and was its supervisor at the time he was selected to assist the general manager in matters pertaining to sales.

Direction of Simpson's converting plants, both at the mill and in Los Angeles, and sales of their output continue under G. H. (Jerry) LeCuyer, sales manager, converted products.

Riegel Announces Personnel Changes

Riegel Paper Corp. has announced four personnel changes in its Carolina Division at Riegelwood.

Thomas R. Johnson was promoted to quality control supervisor. Hyton Babson was named assistant quality control supervisor.

Joseph B. Callan was promoted to finishing and shipping superintendent. Russell J. Carpenter was named assistant finishing and shipping superintendent.

Columbia Promotes Maves and Greenhouse

Columbia Box Board Mills, Inc., has appointed Adolph E. Maves director of industrial and public relations and Henry M. Greenhouse technical director.

Mr. Maves has been with Columbia since 1955 and served in the capacity of sales manager and as sales representative in the Metropolitan New York Area. Prior to his association with Columbia he was with the Continental Paper Co., Ridgefield Park, N. J., for 30 years and with the United Board and Carton Corp. for five years. In addition to personnel and public relations he will also be responsible for the "Save A Tree-Earn A Dollar" program which was developed to encourage the collection of waste paper by civic organizations in the areas surrounding the company's mills.

Mr. Greenhouse has been with Columbia since 1955 except for time spent serving in the Armed Forces. He is a graduate of the School of Forestry at Syracuse University where he majored in Pulp and Paper Technology. He came to Columbia after being associated with the Gilman Paper Co., Gilman, Vt.

Standard Packaging Div. Promotes White, Hawkins

Carlton White has been promoted to superintendent of finishing at the Lincoln, Me., mill of the Eastern Fine Paper and Pulp Division, Standard Packaging Corp. He was formerly assistant superintendent of finishing at the same mill.

Coincident with Mr. White's promotion was the appointment of Randolph Hawkins as assistant finishing superintendent.

Richards Made Dir. Indus. Sales, Decotone Products

David Richards has been named director of industrial sales for the Decotone Products division of Fitchburg Paper Co.

This move, designed to establish two main sales divisions at Decotone and coordinate sales of converted products other than decorative laminating papers, recognizes the grow-

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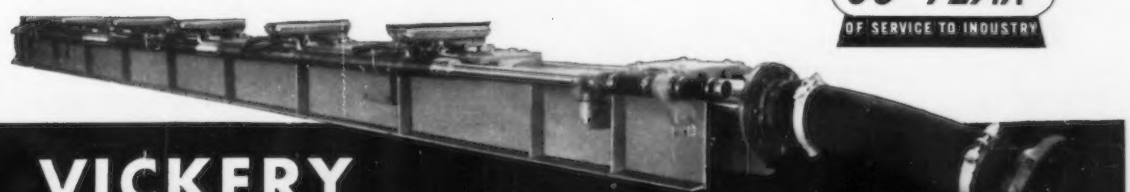

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ing complexity of business in the paper converting field. John Pollock, who has been responsible for decorative laminating paper sales, continues to direct sales in that field which represents a major segment of Decotone's business.

Mr. Richards attended the University of Maine and joined Fitchburg Paper Co. in 1947. He spent three years working out of the company's New York City sales office and has been in the sales division of Decotone since 1950.

Consolidated Announces Appointments

R. D. Morse

C. Harry R. Johnson, president, Consolidated Paper Co., Monroe, Mich., has announced a series of appointments and promotions.

Robert D. Morse, formerly plant engineer and assistant to the vice president in charge of manufacturing, was named manager of manufacturing as successor to Mr. Johnson. Mr. Morse is now responsible for all phases of manufacturing in all divisions. He received his BS degree in mechanical engineering at the University of Michigan in 1940, and joined Consolidated that year.

William Lunsford has been appointed technical manager of all plant operations and will assist Mr. Johnson in coordinating all required research and development activities. A graduate of Miami University, Oxford, Ohio, Mr. Lunsford received his Masters Degree at Kansas State University, Manhattan, Kan. He joined Consolidated in 1954 as a research chemist, having been formerly employed by the Hercules Powder Co.

F. B. Grunwald, former superintendent of mills No. 3 and No. 11, has been appointed plant manager of Consolidated's South Side division. Mr. Grunwald has been associated with Consolidated for 30 years. His previous responsibilites have been assigned to Harry Noland, a former assistant.

George Baron, former assistant superintendent of Plants No. 3 and No. 11, has been appointed plant manager of the entire North Side division. He joined Consolidated as a mill office clerk in 1946.

Other appointments included that of Alvin Duvall as superintendent of plants No. 5, No. 6, No. 7, and No. 8; James Dalton as paper making consultant and John P. Bronson as box board sales manager.

F. B. Grunwald

William Lunsford

George Baron

Great Northern Names Gagne Personnel Mgr.

The Great Northern Paper Co. has announced the appointment of Robert P. Gagne of Winslow, to the position of manager of personnel-manufacturing, effective Aug. 1st.

The appointment is due to the retirement of John E. McLeod of Bangor, and the attendant regrouping of the functions of the present personnel department. Mr. Gagne will make his headquarters at East Millinocket, and will have charge of the administration of personnel and safety work for the manufacturing department of the company. For the past 11 years he has been a traveling representative for the International Brotherhood of Paper Makers.

Diamond Gardner Ups Three

Gardner Division, Diamond Gardner Corp., Middletown, Ohio, has announced three promotions. Edward F. Quinn was named manager of accounting. Thomas N. Braun was named projects accountant.

Mr. Quinn has been with the company since 1933 and has held various jobs in the accounting department. He was promoted to chief accountant in 1948 and in 1950 became cost manager.

Mr. Braun joined Diamond Gardner in 1951 as a general accountant. He became a management trainee in 1952, and was promoted to staff assistant to the controller in 1956.

At the same time, the company announced that Ronald L. Baker of Cincinnati was appointed coordinator, profit planning. Mr. Baker has been with Diamond Gardner since 1949.

U.S. Gypsum Assigns New Post to Thiel

C. Conrad Thiel, United States Gypsum Co., has been appointed general production manager, paper, roofing, insulation and metal divisions.

Mr. Thiel, a graduate of Purdue University, joined U. S. Gypsum at Oakfield, N. Y., in 1943 and the following year was appointed assistant superintendent, paper mill. Moving to South Gate, Calif., he assumed similar positions in the felt and paper mills, and in 1947 was named superintendent.

He was appointed works manager of the Clark, N. J., plant in 1950, and the following year production engineer, paper, in Chicago. His following assignments were as works manager at Galena Park, Tex., and South Gate, Calif.

NEWS OF CONVERTERS

E. P. Alexander

W. J. Gosney

Chase Bag Promotes Alexander & Gosney

Chase Bag Co. has appointed Eugene P. Alexander sales manager of its paper bag division, with headquarters in New York.

Mr. Alexander has been manager of the Chase Bag Co. sales office in Chicago since 1957 and prior to that was sales manager. He joined the firm in Detroit in May 1948 as a sales representative, later serving in Cincinnati and as sales manager in Detroit.

William J. Gosney, a sales representative for Chase Bag in Chicago since 1956, succeeds Mr. Alexander as manager of that office. He has been with the firm for 10 years in Kansas City, Buffalo and Pittsburgh.

Inlander-Steindler Folding Box Operation Renamed

Herbert C. Altholz, president of Inlander-Steindler Paper Co., Chicago, has announced that effective June 1st, 1959, it has merged its former subsidiary operation known as Packaging Corp. of America, and integrated all of its operations into the Inlander-Steindler organization as a divisional operation.

In making the announcement Mr. Altholz stated "We have effected many economies by dissolving this individual corporation, and integrating all of its administration and sales and service functions into those of the Inlander-Steindler organization It is our intention that our other separate subsidiary operations will be integrated as divisions within the near future."

The folding box operation will no longer be identified as Packaging Corp. of America, but will be known as Paco Division—Inlander-Steindler Paper Co. Executive offices are already established at 2700 North Karlov Avenue with manufacturing plant facilities at 4041 West Parker Avenue, Chicago, Ill.

Swaney to Be Acting Gen. Mgr. at Monroe

Monroe Paper Products Co. has appointed Robert M. Swaney acting general manager, succeeding Charles E. Raney. Mr. Swaney, elected a director a month ago, also was named secretary. Mr. Raney will continue as a director.

Hegenscheid to Retire From Hampden Glazed

William F. Hegenscheid, will retire about August 1st. as chief engineer of the Hampden Glazed Paper & Card Co. He joined the organization in 1931.

Born in Germany, Mr. Hegenscheid received his education in that country, graduating from the College of Bingen, on the Rhine river. He was employed by the Krupp Works in Oberhausen, Westfallen, in the engineering dept. before coming to the United States in 1910.

In 1919 he came to the American Writing Paper Co., Holyoke, as superintendent of the repair shop, where he stayed until June of 1931. Mr. Hegenscheid has designed and had built under his supervision many of the special machines now in use at Hampden Glazed.

No successor has been named to the position as yet.

Murphey Elected President Of Simplex Corp.

Floyd M. Murphey, vice president and works manager of the Simplex Paper Corp. Adrian, Mich., has been elected president and treasurer of the firm. Mr. Murphey has been associated with the company for many years.

Charles G. Wood, former president, is now chairman of the board. Robert H. Wood is vice president and secretary. Kenneth R. Moehl, manager of the Jacksonville, Fla., plant, is also a vice president.

The firm produces a wide variety of paper products for industrial uses. It has another plant at Crossett, Ark.

K. E. Booth

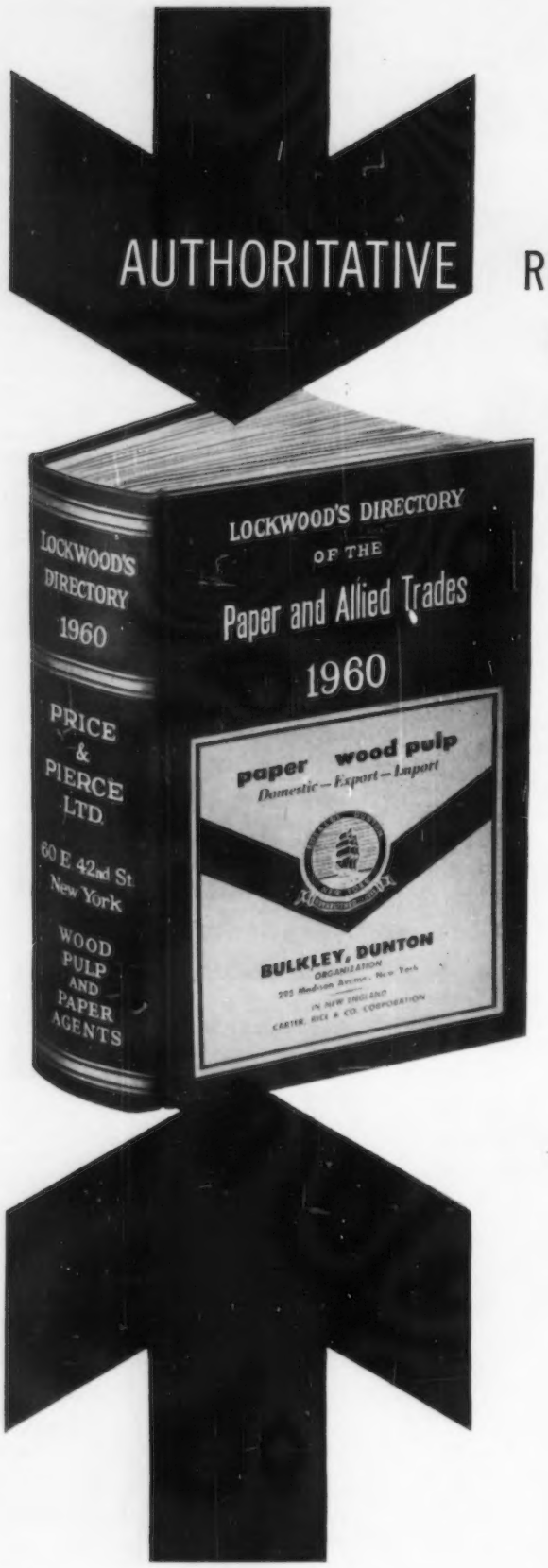
Olin Mathieson Ups Booth

Kenneth E. Booth has been appointed assistant product manager for carton operations for the packaging division of Olin Mathieson Chemical Corp.

Mr. Booth was formerly executive assistant to the product manager for corrugated containers. He will maintain offices at carton operation headquarters in West Monroe, La.

Patio Paper Products Appoints 3 Sales Brokers

The Patio Paper Products Co. announces the appointment of three brokers to its sales organization. The Jay Brokerage Co. of Milwaukee, Wis., Walter Greeson Co. of Flint and Grand Rapids, Mich., and Robert Bodemer Co. of Detroit, Mich., will represent the new Home Package line of Patio Paper Products, that includes Patio paper cups with handles and Patio paper plates.



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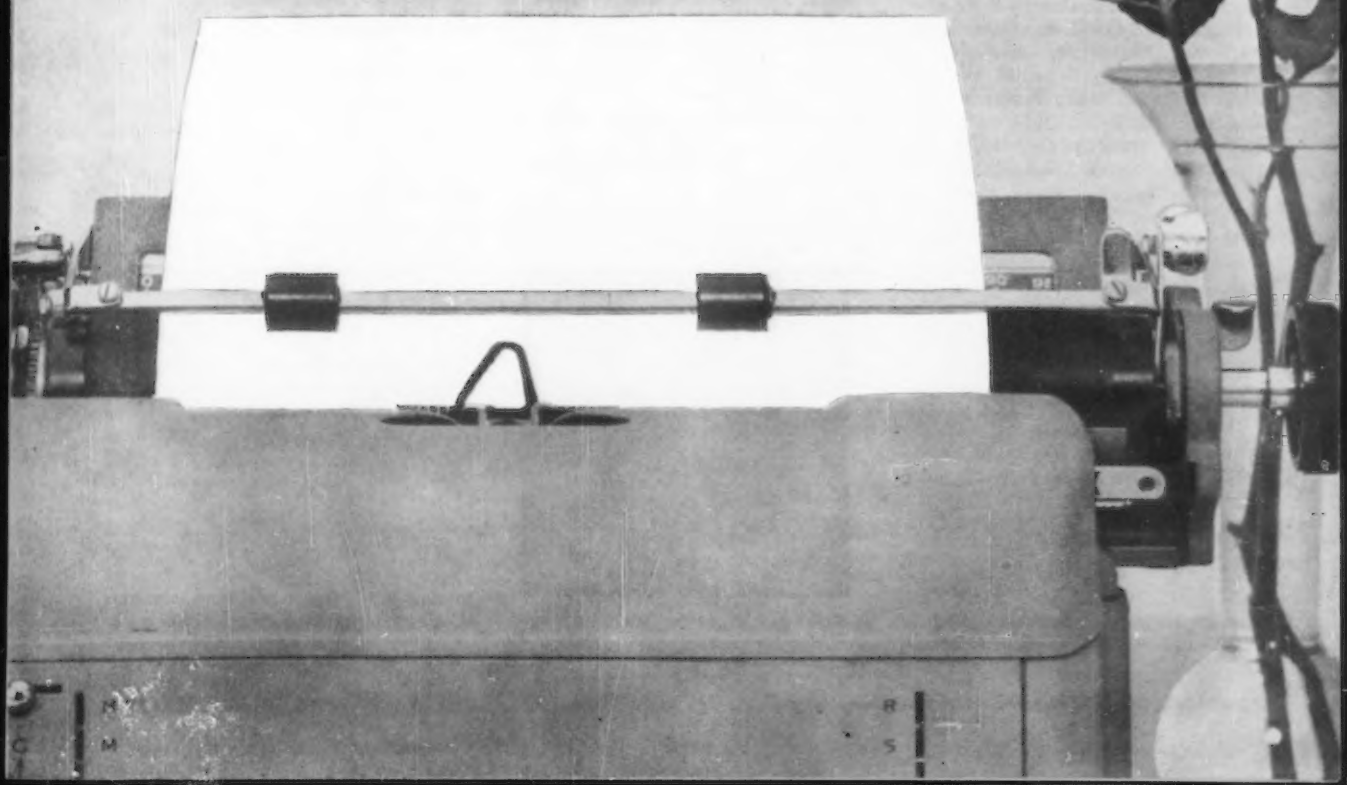


Canadian Technical and Operating Men Hold Summer Meeting

Two sessions on mechanical pulp manufacture were outstanding items on the technical program of the Summer Meeting of the Technical Section, Canadian Pulp and Paper Ass'n., held at Manoir Richelieu, Murray Bay, Que., on June 17-20. The program was opened with a general interest session presided over by J. McK. Limerick, chairman of the Technical Section, C.P.P.A. and research director, Bathurst Power & Paper Co. Dr. R. de Montigny, chairman, technical services department, Pulp and Paper Research Institute of Canada, presented a paper entitled "Where is it on the Balance Sheet?" Dr. de Montigny discussed the problem of putting a direct and immediate dollar evaluation on the value of research. He also reviewed the research program and results obtained at the Pulp and Paper Research Institute of Canada. G. J. Thiessen and I. R. Dagg, Applied Physics Division, National Research Council, Ottawa, Ont., discussed "Vibration as a Quantitative Measuring Tool of Pulp Consistency." The performance of the Bird Centriscreen for the pressurized screening of groundwood was discussed by T. N. McLenaghen, Abitibi Power & Paper Co., Iroquois Falls, Ont., S. S. Salomon, Bird Machine Co., South Walpole, Mass., and I. Clark-Pounder, Canadian Ingersoll-Rand Co., Sherbrooke, Que. The board committee held an informal session at which operating problems were discussed and where J. T. Loomer, Robert Gair Division, Continental Can Co., New York, N. Y., talked about the machine coating of paperboard.

Groundwood and Sulphite

W. H. Rapson, University of Toronto, presided over a session devoted to groundwood pulp manufacture.

High Yield Sulphite & Slime

J. S. Cheriton, Abitibi Power & Paper Co., Smooth Rock Falls, Ont., was chairman of a session on high yield sulphite pulping. G. de Carufel, Consolidated Paper Corp., discussed and described the high yield sulphite pulp operation at his mill. (This was detailed in the May 18th issue of PAPER TRADE JOURNAL.) Production of High Yield Sulphite for Newsprint from West Coast Woods was the title of a paper by D. L. Stewart and H. F. Crotogino, Powell River Co,. Powell River, B. C. This latter installation is similar to those in Eastern Canada such as was described by Mr. de Carufel.

The program of a meeting on fine papers was devoted to a paper on a new slimicide and a round table discussion of surface defects in fine papers. S. J. Lederer, Metalsalts Corp., Hawthorne, N. J., reported on the use of Metasol, a compound of new mercurial complexes in fine paper mills.

F. L. Mitchell was honored with presentation of life membership.

Reports on the two groundwood sessions were delayed in the mail and not received at press time.

J. McK. Limerick, Section Chairman, made award to Mr. Mitchell.

Fundamental Research and Instrumentation

B. J. Trevelyan, Fraser Companies Ltd., Campbellton, N. B,. was chairman of a session on Fundamental Research. W. H. Rapson discussed the yellowing of bleached sulphite pulp. One of the major causes of this, he said, was due to the presence of resins in the pulp. Dr. Rapson also referred to a trend to two-stage chlorine dioxide bleaching for sulphite pulp. S. G. Mason, Pulp and Paper Research Institute of Canada, presented a paper entitled "Irreversible Changes in Cellulose and Paper Caused by Drying."

Those interested in process instrumentation met under the leadership of J. T. Dykes, Howard Smith Paper Mills Ltd., for an informal discussion of "Operating Experiences with Basis Weight and Moisture Measuring Equipment."

Mitchell Honored

At the annual Summer Meeting banquet J. McK. Limerick, chairman of the Technical Section, presented an honorary life membership to F. L. Mitchell, general manager, Canadian Pulp and Paper Ass'n.

Mr. Mitchell was born in Jamaica and came to Canada to study civil engineering at the University of Toronto. His education was interrupted by four years service overseas as an officer in the Canadian Infantry and Engineers. Following World War I, he completed his university studies and graduated at McGill in 1921 with honors in chemical engineering. He then joined Abitibi at Iroquois Falls, and later became assistant manager of operations of that company. For two years he was also with Provincial Paper. In 1934 he became assistant manager of the newsprint division of Canadian International Paper Co. In 1936 he was appointed general

R. de Montigny presented opening paper at general session.

manager of the Woods Manufacturing Co. During World War II he was Deputy Coordinator of the Pulp and Paper Administration of the Wartime Prices and Trade Board. He was decorated for his work with the board. Following the war he became general manager of CPPA.

Mr. Mitchell has ever been interested in furthering the technical progress of the industry. He has been an active member of the Technical Section since 1921. He was chairman of its Sulphite Committee in 1930 and the first winner of the Weldon Medal. In 1933-34, he served as chairman of the section. In 1927 he became a member of the committee set up to organize the Pulp and Paper Research Institute of Canada and later, in 1935, he was chairman of the Administrative Committee of the Institute. In 1953, he was chairman of a committee appointed by the Executive Board of CPPA to report on the Institute's facilities. The new laboratories at Pointe Claire resulted from the work of this committee.

In accepting the award Mr. Mitchell reminisced on the history of the Canadian industry and some of its outstanding personalities.

S. G. Mason discussed effect of drying on paper and pulp.

Newsprint

Douglas Jones, executive secretary, Technical Section, CPPA, was chairman of a session devoted to the problem of wire mark on newsprint in which the newspaper publishers seem to be arousing interest. J. G. Buchanan, Pulp and Paper Research Institute of Canada, presented a review of published work on the subject of wire mark and indicated possible approaches to the design of a device to measure it. This was followed by a discussion of current techniques being used by the mills to minimize the problem. Members of the panel included representatives of the following companies:

Bowaters Southern Paper Corp.; Great Northern Paper Co.; Ontario-Minnesota Pulp & Paper Co., Ltd.; Elk Falls Co., Ltd.; Quebec North Shore Paper Co.; Ontario Paper Co., Ltd.; Spruce Falls Power & Paper Co. and Beloit Iron Works.

Board and Steam

Theoretical and practical aspects of sizing was the topic chosen for a discussion by the board people. It was led off by a paper on this subject by T. S. Morse and S. W. Atkins of Hercules Powder Co.

The steam and power men met under J. A. Warburton, Canadian International Paper Co., Temiskaming, Que., to discuss the conversion of oil- and coal-fired boilers to natural gas. This was led off by a paper, "Conversion of Abitibi Boilers to Natural Gas Firing," by J. G. Stinson, Abitibi Power & Paper Co., Ltd., Toronto, Ont.

Sulphite, Maintenance and Board

Maintenance in paper mills was the subject for a group discussion chaired by A. W. Burditt, Anglo-Canadian Pulp & Paper Mills, Quebec., P. Q. The discussion was introduced with a paper by W. R. Bowen, Scott Paper Co., Chester, Pa. The Sulphite Committee, under J. S. Cheriton, Abitibi Power & Paper Co., Smooth Rock Falls, Ont., held a session on sulphite pulping at which two papers were presented by the staff of the Pulp and Paper Research Institute of Canada as follows:

"A Progress Report on the Comparison of Bases in the Sulphite Cook," W. Q. Yean and J. S. Hart.
"pH Control in Sulphite Pulping—The Effect of pH Level on Cooking Rate," O. V. Ingruber.

K. E. Lachance, E. B. Eddy Co., Hull, Que., led an informal board

Douglas Jones presided over session on newsprint wire mark.

session on new developments in drying. The program was based on a panel presentation with the following members:

O. Witworth, Black Clawson (Canada) Ltd., Montreal; W. Courture, Black Clawson (Canada) Ltd., Montreal; J. L. Bryant, Ross Engineering of Canada Ltd., Montreal; R. W. Emmans, Emmans Ltd., Montreal.

Electrical and Fine Papers

Solvents for electrical cleaning was the subject of a session on electrical engineering directed by J. H. Browne, Kenogami, Que. The discussion was introduced by R. F. O'Connell, Montreal Armature Works Ltd.

A panel of eight paper mill men discussed: "What the Papermaker Requires from the Chemical Pulp Mill." Members of the panel were: H. G. Anderson, E. B. Eddy Co.; J. S. Cheriton, Abitibi Power & Paper Co. Ltd.; L. Dubois, Rolland Paper Co. Ltd.; J. D. S. MacDonald, Canada Paper Co.; H. D. Paavila, KVP Co. Ltd.; C. H. Rimmer, Consolidated Paper Corp. Ltd.; J. E. Taylor, Howard Smith Paper Mills Ltd.; M. J. F. Turner, Canada Paper Co.

W. H. Rapson gave a paper on color reversion in bleached sulphite.

Remark on Drying System on Twin Wire PM

EDITOR, PAPER TRADE JOURNAL

In your very interesting description of the Twin Wire Machine at Tullis Russell's, Scotland (your issue of May 4th, 1959) the Heating System for the Paper Drying Cylinders was described as being of the V.J.B. Type.

The writer would like to take this opportunity of pointing out that the system installed was, in fact, an R.E.C. Velocity Heating System designed and manufactured by The Reiss Engineering Co. Ltd., Stanmore, England.

Basically, the principle of our system is the forcing of steam to flow through the paper drying cylinders, utilizing the pressure differences existing between the cylinders near the dry end, and those near the wet end.

Your readers will recognize that this principle is generally followed in the so called "Cascade Systems" as applied to fast running machines, where centrifugal forces in the drying cylinders make it essential to maintain minimum pressure differences between cylinder groups to force the condensate out of the cylinders.

On a machine such as that at Tullis Russell where speeds do not exceed 600 ft. per minute, the centrifugal effect is not such that the abovementioned conditions apply. However, it is generally realized that for maximum heat transfer, effective removal of air, and efficient draining of condensate, forced steam flow is nevertheless essential and the R.E.C. Velocity Heating System is fitted to obtain these results.

The basic problem with which the designer of a heating system is faced is that of flexibility. Paper produced on "fast runners" does not normally change greatly in substance, weight nor the speed at which it is produced; consequently the temperature curve requirements over the drying cylinders are comparatively steady. By comparison a machine such as that at Tullis Russell requires great flexibility by virtue of its task of producing papers over a wide range of weights and speeds. Not only is it necessary to be able to change the level of the temperature curve, but also its gradient.

The machine, as mentioned in your article, has 34 drying cylinders with an intermediate calender after cylinder No. 24 and a size press after cylinder No. 29. The heating system was designed in such a way that a gradually rising temperature curve could be obtained up to the intermediate calender with the possibility of independent control immediately after this calender and a further rising temperature curve after the size press, necessary by reason of the moisture entering the paper in the sizing process.

Throughout the system direct steam is used to feed the cylinders operating at the highest pressures, such cylinders discharging via steam and condensate separators where, as the name implies, condensate is separated out and exhaust steam, free from condensate, taken to feed cylinders required to operate at lower pressures and temperatures. Each separator is fitted with an automatic air release mechanism.

Steam circulators are used wherever there is the possibility that exhaust steam quantities are insufficient to meet all the demands of the low pressure cylinders so that through these circulators make-up steam from the main can be added.

A further feature of the system is that the flash steam which is released in the condensate line is used to feed the first drying cylinder (at the wet end) which itself discharges its condensate by means of a vacuum plant into the main condensate collecting tank.

There are many features of this system which cannot be gone into without reference to flow diagrams but I hope that the foregoing will be of some interest to your readers.

H. F. Reiss
The Reiss Engineering Co. Ltd.
Stanmore, Middlesex
England.

Solving the Problem Of Arching in Chip Bins

A. D. Sinden,
Vice President Research and Development,
Stephens-Adamson Mfg. Co.

Few, if any, materials are worse than wood chips when it comes to arching across the hoppered bottom of a bin or silo and refusing to flow out. The time-honored apparatus for feeding wood chips out of a bin is the rotary plate feeder. An important advantage of this device is that it lends itself to large bin outlets and thus makes use of the fact that arches, even of wood chips, will not hold up if the span is great enough.

Lower Cost and Power

In order to insure that chips will almost never "hang up" in a bin it has been customary to make bin outlets as large as 12 feet in diameter with rotary plates 17 feet or more in diameter. Equipment of these proportions will do the intended job, but it is high in first cost and power consumption.

A way has now been developed and proven in service by Stephens-Adamson for greatly reducing the size and cost of the rotary plate feeder without sacrificing any of its effectiveness.

The reduction in diameter of outlet and rotary plate is made practical by an "arch breaker." The drawing, Figure 1, shows a conventional rotary plate feeder with 17-foot plate, also an arch-breaker type of feeder with an 8-foot plate. Both units are drawn to the same scale for comparison as to size. Both will handle the same tonnage but the conventional unit, equipped with 30-horsepower drive occasionally has starting trouble, while the arch-breaker feeder, with 7½-horsepower power drive and costing much less to build, has more than ample power under all conditions.

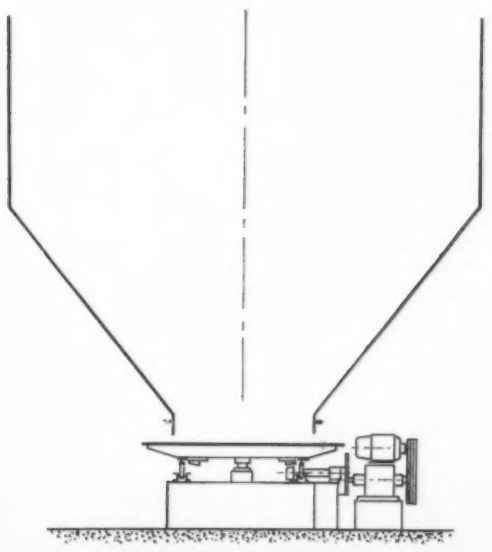
Simple and Rugged Device

The arch-breaker is a remarkably simple and rugged device. It consists of a shaft with bar vanes welded on four sides, thus producing a cross-section resembling a Maltese cross. The shaft is connected at its lower end to the center of the rotary plate through a universal joint. When the plate rotates, the arch-breaker is also made to rotate on its axis.

Since the upper end of the arch-breaker rests on the circular bin wall or conical hopper, it tends to travel gradually around the circumference of the bin. However, it is never actually forced to travel around the circumference, which fact is the basis of its ruggedness. It is easy to make the vaned shaft strong enough to rotate on its own axis, under any kind of bin filling, although it would be completely impractical to make anything strong enough to be forcibly swept around the circumference of a large bin. The vanes, continually digging away at the surrounding chips, break down arches as fast as they form and keep the chips flowing down in to the rotary plate.

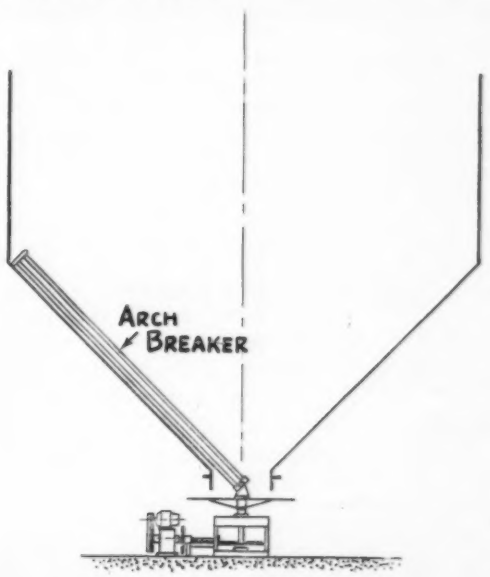
In addition to the saving in cost and power, the arch breaker feeder adds a note of reliability. Occasionally, chips that have stood several days will arch even across a 12-foot outlet. With the arch breaker and any size outlet that is adequate for tonnage, this never happens.

For square or rectangular bins, the arch breaker can be adapted by the simple expedient of installing a circular flat-bar track at or near the junction of the bin walls and the hoppered bottom.



Conventional Rotary Plate Feeder.

Same Bin—Same Capacity.



Rotary Plate Feeder with Arch Breaker.

St. F. Begins—Aims for Quality Coating

One of the most interesting mills to be constructed in recent years is the St. Francisville Paper Co. mill at St. Francisville, La. Reason for the widespread interest is CZ's double coating process on-the-machine. There have been many coating advances in the past few years and now the company aims to top them all with an in-line installation of paper machine, two-side roller coater, and two trailing blade coaters (one for each side of the sheet). It is expected that the resulting sheet will be the ultimate in coated papers.

St. Francisville Paper Co. is jointly owned by Crown Zellerbach Corp. and Time, Inc. Part of the production will go to the publishing company and the balance will be sold by the CZ Sales organization.

The mill site is about one mile east of the Mississippi River and about six miles southwest of St. Francisville. Construction was begun about June 1957 under the supervision of L. F. Maybach. The mill was nearing completion when visited by PAPER TRADE JOURNAL in mid June, with stock being put on to the wire then and full operation expected within three to four weeks. PAPER TRADE JOURNAL reports here the first description of the physical facilities at the St. Francisville mill.

Facilities

The overall plant consists of five buildings: (1) the paper mill (2) the machinery storage warehouse; (3) the shops and stores building; (4) the office buildings; and (5) the sheet finishing building.

The paper mill building is constructed of structural steel with pre-cast concrete skin and lightweight pre-cast roof panels. The sheet finishing building is entirely of pre-cast concrete construction and is all air conditioned, humidity controlled.

The mill's water supply is obtained from three deep wells. There are two above ground storage tanks for water and one elevated tank for fire protection. Power is supplied by the Gulf States Utilities Corp.

Mill Operation

Pulpwood for the mill's groundwood operation is delivered by rail, truck or barge and consists primarily of cottonwood and willow. The logs, after barking, are fed to three Roberts type grinders supplied by Appleton Machine Co. Each is powered by a 3000-h.p. motor. Bleached chemical stock is also used and this will be supplied from other C-Z mills. Stock preparation equipment consists of E. D. Jones Majestic jordans, centricleaners, and selectifier screens.

The paper machine, built by Beloit, has a 264-inch wide wire and trims 246 inches. Designed for speeds up to 2000 f.p.m. and maximum production of 300 tons per day, it is driven by a 1200-h.p. General Electric steam turbine through a standard Beloit differential drive. Total length of the machine from headbox to reel is 432 feet.

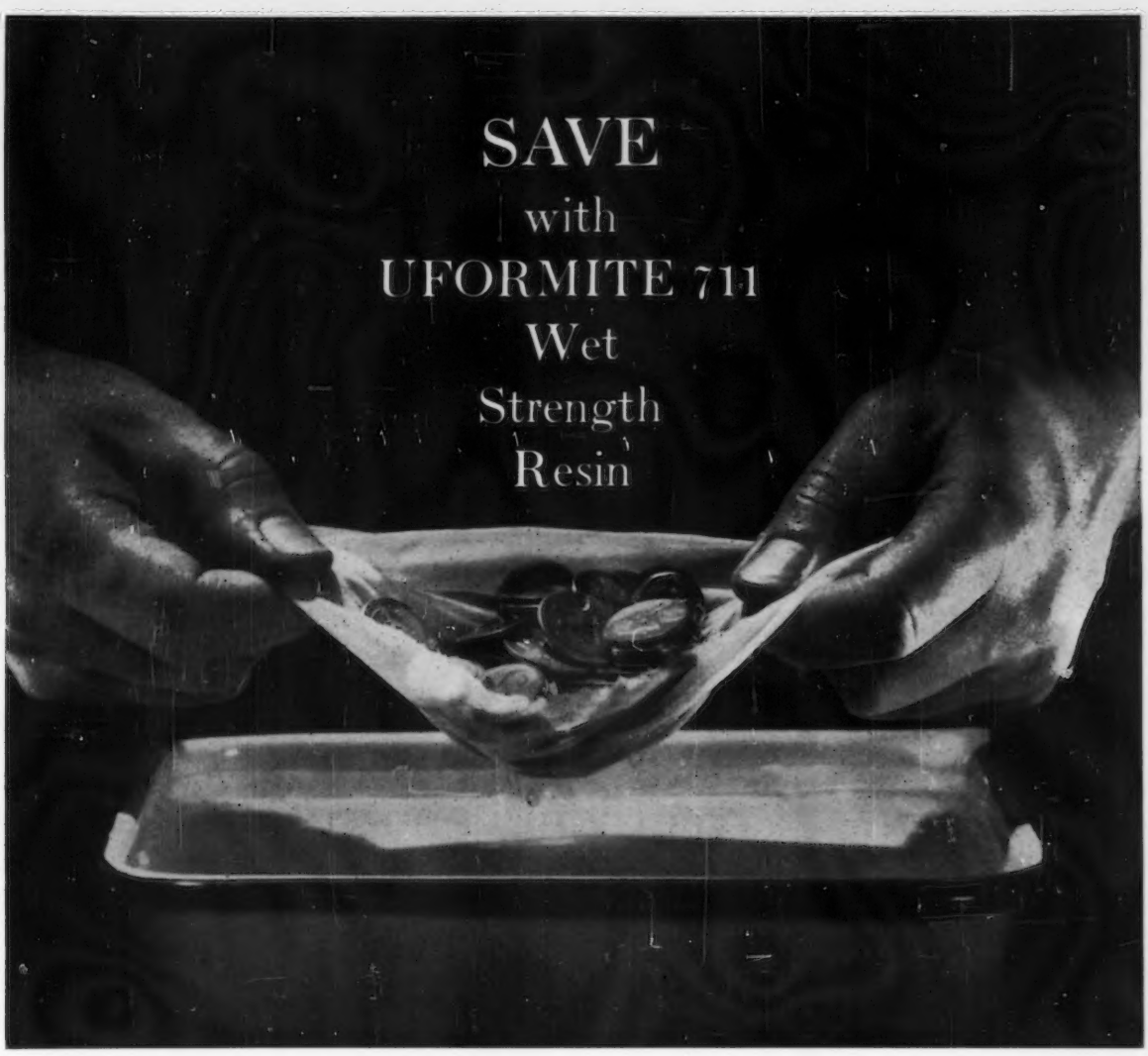
The machine has a pressurized headbox, a vertical press section and five-foot dryers. The first three dryer sections are followed by an eight-roll calender stack, then the Beloit roll coater, which coats both sides of the sheet simultaneously, and the fourth dryer section containing 14 dryer rolls. The roll coater section is about 30 feet in length. In line with the foregoing equipment, and following the fourth dryer section is the first trailing blade coater and then four dryer rolls. Next, is the second trailing blade coater followed by four more dryer rolls, a pull roll and the reel. Both trailing blade coaters were supplied by Rice Barton. The dryer sections are totally enclosed by a J. O. Ross hood.

Transport to Supercalenders

A series of roll stands are provided at the end of the machine for temporary storage of the completed rolls of paper. An Ederer crane is used to move the rolls to the stands and from here to a battery-powered electric roll transporter. This carries an individual roll via a two-rail track system into position in front of one of the two Appleton supercalenders. An Ederer crane is provided for each of the supercalenders to move the rolls from the transporter and later to the rewinders. Both supercalenders will handle full 246-inch-width rolls of paper.

In the same area with the supercalenders are two Cameron rewinders, capable of handling full-width rolls, and one 105-inch Cameron rewinder. The finishing line where the rolls are weighed, wrapped and sealed was supplied by Lambs-Gray Harbor.

When desired, paper will go to the sheet finishing building where a 100-inch Clark-Aiken cutter and two Seybold trimmers are located. Warehouse space is also provided here. With this sheet finishing operation, Crown will be able to furnish almost any desired sheet size.



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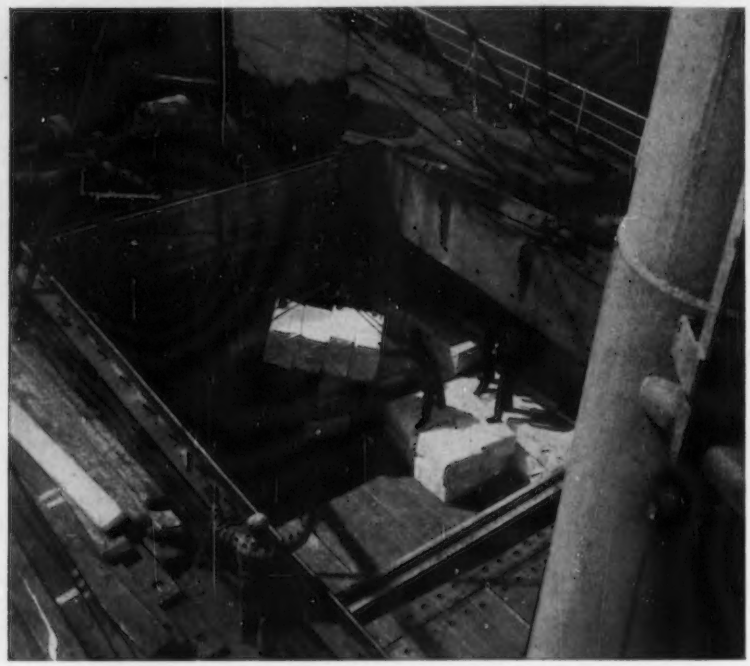

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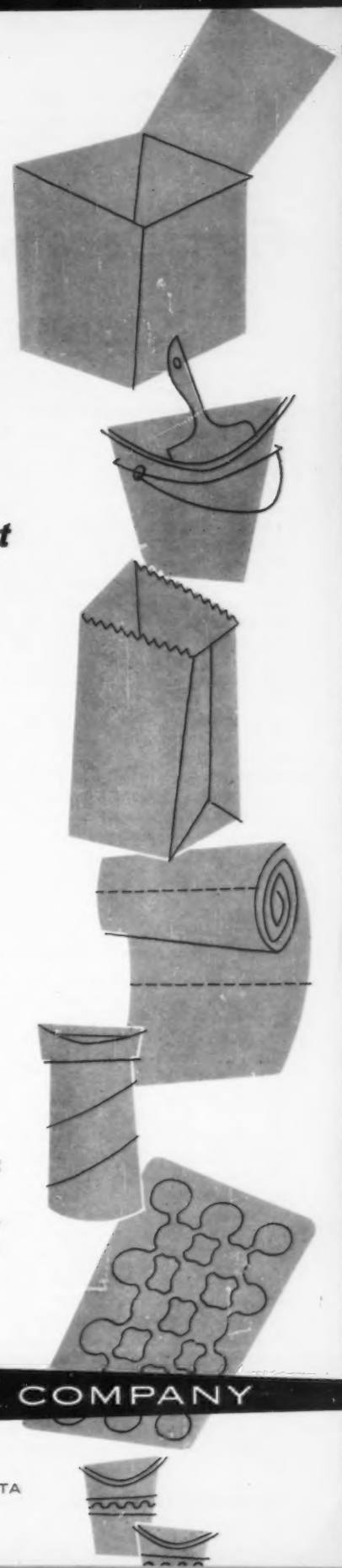

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First Details of West Virginia's Clupak Paper Operation Revealed

Paul D. Van Derveer,
Associate Editor,
Paper Trade Journal

One of the most startling developments in the paper industry in recent years was commercial production of a remarkable new stretchable kraft paper called Clupak paper. Having the property of great toughness, this paper was first produced commercially in December 1957 on West Virginia's new No. 3 paper machine at Charleston, S. C.

More recently, in January of this year, the installation of an extensible unit on the No. 2 machine was completed. Indicative of the acceptance which Clupak paper has gained is the fact that already nearly 100 per cent of both machines' production is devoted to the new stretchable paper. West Virginia markets this paper under the brand name of Kraftsman Clupak paper.

Impact of the New Process

Clupak stretchable paper is made by a process invented by Sanford Cluett of Cluett, Peabody & Co., Inc., which together with West Virginia Pulp and Paper Co. has organized a new corporation, Clupak, Inc. The object of this corporation is to develop and direct a program to license the process, the product and the trademark. The impact of this revolutionary new product is such that a number of companies have already made licensing agreements with Clupak, Inc., to manufacture stretchable paper. These include:

International Paper Co., Camden, Ark.

West Virginia Pulp and Paper Co., Charleston, S. C.

Albemarle Paper Manufacturing Co., Halifax, N. C.

Union Bag & Paper Corp., Savannah, Ga.

Canada Paper Co., Windsor Mills, Quebec.

This two-inch laboratory unit was built by Sanford Cluett to carry out initial tests of the extensible process.

St. Lawrence Corp., Ltd., East Angus, Quebec.

Continental Can Co., Inc., Hodge, La.

St. Regis Paper Co., Pensacola, Fla.

Crown Zellerbach Corp., Antioch, Cal.

Hudson Pulp & Paper Corp., Palatka, Fla.

Calcasieu Paper Co., Elizabeth, La.

Dynas Artiebolag, Vaja, Sweden.

Commercial Production

To get Clupak paper into production, West Virginia invested over 2½ million dollars in research and over three years in time. Development of the extensible unit began with a two-inch table model; next the process went to a 15-inch laboratory paper machine, and then to a 60-inch pilot plant model. With the 60-inch machine, the company went into semi-commercial production and supplied Clupak in small lots to converters who experimentally manufactured a number of paper products for evaluation purposes.

Clupak paper was finally brought to commercial production at West Virginia's Charleston, S. C., plant on a new 264-inch paper machine, No. 3, which was installed as part of an expansion program costing 25 million dollars. Another extensible unit was installed last January on the existing 246-inch wide No. 2 machine.

Unit Pre-Shrinks Sheet

West Virginia produces Clupak paper on paper machines which are conventional in every respect, except for the inclusion of extensible units. The unit, consisting essentially of a heavy rubber belt, heated drum, and carrying rolls, is located between the second and third dryer sections. The process is a relatively simple, mechanical one. The stock is conventional, with no special preparation or additives. After the sheet is formed and carried through the first two dryer sections, it enters the extensible unit at 30-35 per cent moisture content.

The action of the extensible unit is to shrink the sheet, compacting the fibers in such a manner that they can, if needed, extend themselves to absorb the energy of external impact. The fibers are compacted by the thick rubber blanket, as shown in Figure 1, where the outer surface of the blanket is stretched as it enters the nip together with the moist sheet. The sheet is held tightly between the rubber blanket and the polished surface of the dryer roll. As the blanket passes through the nip, its surface contracts and in so doing shrinks the sheet.

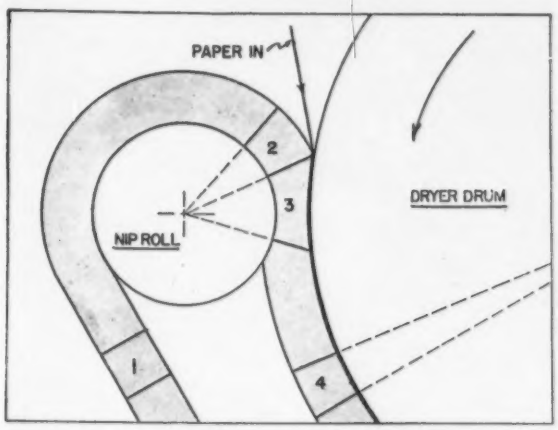


Figure 1 — Numbered sections show how rubber blanket expands in nip, then contracts, compressing paper which is held tightly between blanket and dryer drum.

Extensible Unit for Production

In the production unit (as shown in a sketch, Figure 2), the sheet is led around a paper roll at the end of the second dryer section, over a Mt. Hope roll and into the nip where the above described action of the rubber blanket pre-shrinks the sheet. The sheet then leaves the extensible unit passing under a paper roll, over another Mt. Hope roll and into the last dryer section.

The rubber blanket is carried on three rolls, one of which may be adjusted to provide desired tension on the blanket. Another roll serves to guide the blanket. Pressure is applied at the nip between blanket and dryer by a nip bar which transmits the pressure from diaphragm units equally spaced across the width of the machine. The nip bar is lubricated by a water spray. Two of the blanket rolls are also equipped with water sprays which lubricate the rolls and rubber blanket. This is also sufficient to lubricate the nip roll after normal operation is attained. The inch-thick rubber blanket on No. 3 machine is said to be the largest single item of moulded natural rubber ever made.

The dryer drum, is chrome plated and carries steam to a maximum of 125 p.s.i. Drive for the extensible unit is primarily through the dryer which is driven by a power take-off from the line shaft. Speed is adjustable through a P. I. V. unit.

Important Factors

Due to this compacting process, the sections following the extensible unit must run at a considerably slower paper speed than the rest of the machine and this is related to the amount of stretch imparted to the sheet. At 10 per cent stretch, the third dryer section is run about 10 per cent slower than the second.

Factors in the amount of stretch imparted to the sheet are nip pressure, moisture content and steam pressure or temperature of the dryer. If the sheet is too high in moisture content, draw between the extensible unit and third dryer section is affected and must be carefully controlled. Once the pre-shrunk sheet is dry, however, draws may be handled in the usual manner, for instance, at the calender stacks and reel.

In this manner West Virginia is able to produce an extremely tough sheet with approximately 10 per cent stretch in the machine direction. Cross direction stretch is about five to six per cent (about one per cent more than regular kraft). The machine direction stretch is accurately controllable through a wide range, up to probably 15 to 20 per cent, although exact limits are not known (production requirements have so far been satisfactorily filled in the 10 per cent stretch range.)

No. 2 Paper Machine

West Virginia's 246-inch wide No. 2 machine, which was recently equipped with an extensible unit, produces 26-lb. kraft liner and 30-80 lb. standard kraft and Clupak papers. The grades include bag, striped bag, multi-wall sack, standard converting, waxing, asphalting and gumming papers. Production averages about 275 tons per day.

No. 2 was built by Beloit and installed in 1947. The press section was rebuilt in 1958, and the extensible unit was added the latter part of January 1959 and started up in February 1959. It has a mechanical lineshaft drive powered by a 1600-h.p. Westinghouse steam turbine and has a speed range of 700-1600 f.p.m. The headbox, originally open, is now pressurized. For board grades, the machine is equipped with an air loaded Beloit secondary head box.

There are two suction presses on No. 2 paper machine, and three dryer sections. The first section contains 20 dryer drums; the second contains 13 and the third has 12. All paper drying rolls are 60 inches in diameter as are the ten felt dryers. There are six dryer felts.

A combination breaker stack and striping press is located between the first and second dryer sections, and the extensible unit is between the second and third sections. A size press is positioned just ahead of the extensible unit. The machine also has two open-type calender stacks with two 48-inch diameter paper dryers followed by a Beloit reel and winder.

The extensible unit which was installed on No. 2 includes a chrome plated dryer, a 6½-inch diameter

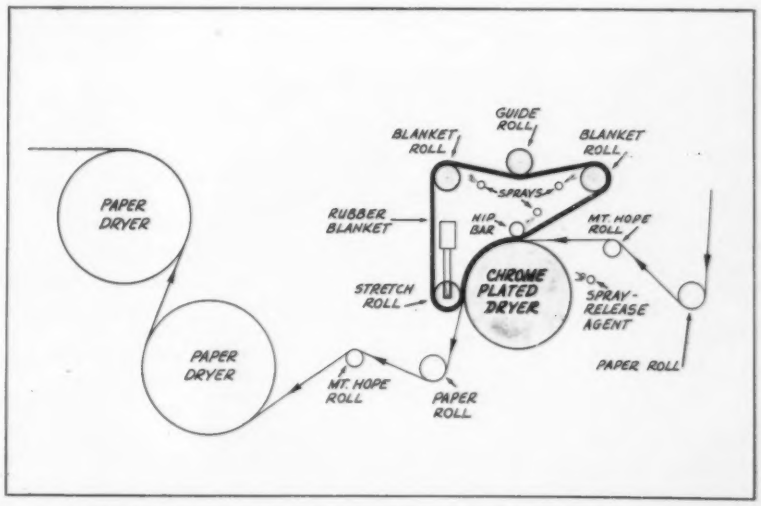
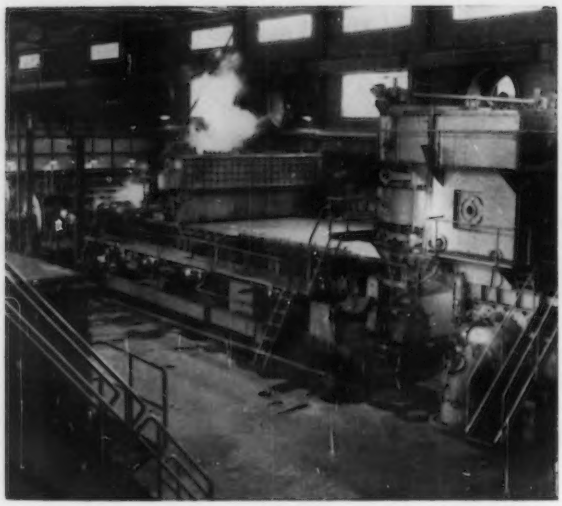
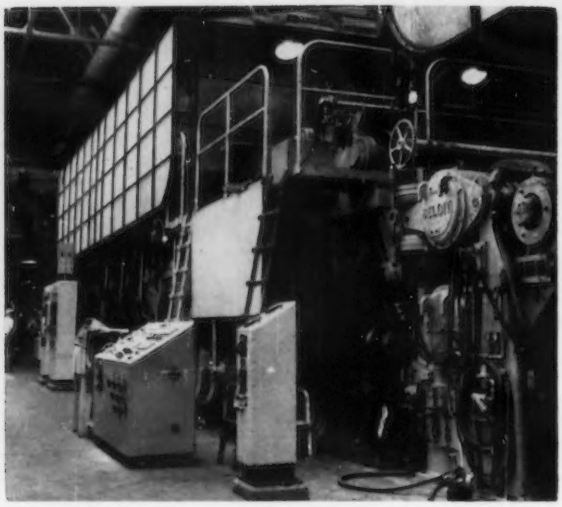


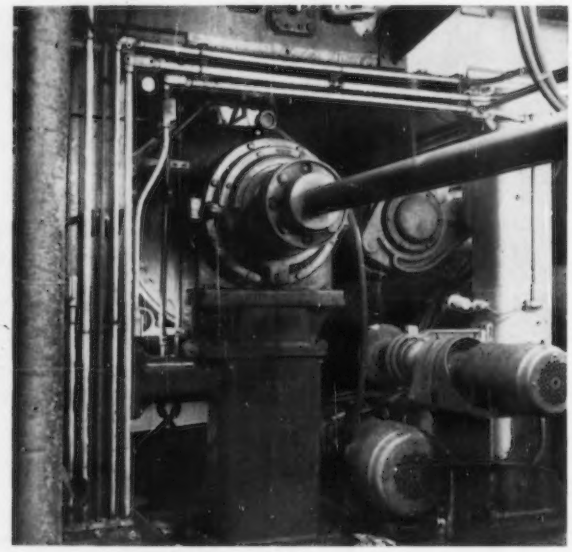
Figure 2—Sketch of production unit shows how laboratory principles were applied.



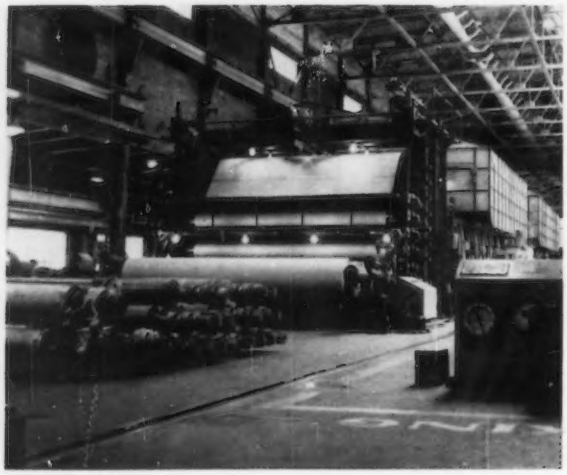
Wet end of No. 2. This machine is equipped with air loaded secondary headbox for board grades.



Looking toward dry end of No. 2. View shows extensible unit and third dryer section.



Drive side of extensible unit on No. 2 machine. Main drive is through 48-inch dryer. Just to the right of the dryer is the tension adjusting roll for rubber blanket.



Dry end of No. 2 machine which produces kraft liner, standard kraft and Clupak papers.

stainless steel nip roll unit, two 7-inch diameter Mt. Hope rolls, three blanket rolls and a rubber blanket 25 feet long by 235 inches wide.

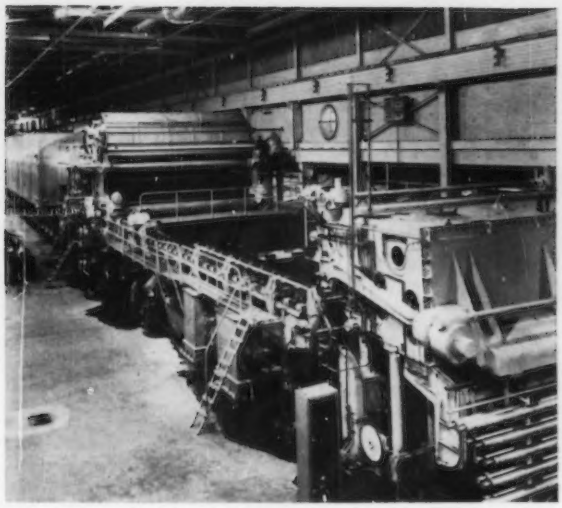
No. 3 Paper Machine

The newest paper machine at the Charleston mill, equipped with an extensible unit almost from the start, is No. 3 which started up in August 1957, and began production of Clupak paper late that year. A Beloit machine, it is 264 inches wide and produces 30- through 100-lb. standard kraft and 35- through 100-lb. Clupak paper grades. Designed for a speed range of 1000 to 2500 f.p.m., it has a differential line shaft drive powered by a 2500-h.p. Westinghouse steam turbine.

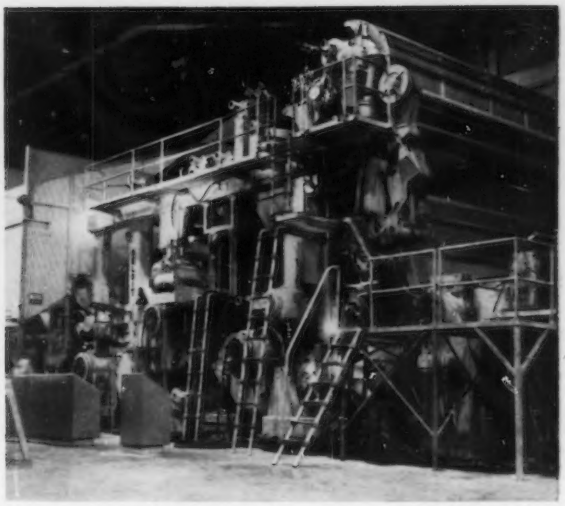
Production averages slightly more than 200 tons per day, although it may range down to 150 tons and up to 450 tons per day.

An Allis-Chalmer ACAP fan pump delivers stock to the pressurized headbox which has a Beloit inlet. The wire is 264 inches wide by 140 feet 9 inches long. The machine is equipped with a 38-inch diameter breast roll, 22 table rolls, seven suction boxes, a 44-inch diameter suction couch and a 38-inch diameter wire turning roll.

No. 3 has a conventional suction pick-up press section with a 32-inch diameter suction pick-up roll. The transfer press has a 34-inch diameter plain top roll and 42-inch diameter suction bottom roll. The second press has a 40-inch plain top roll and 42-inch suction bottom roll. The wringer press has a 34-inch plain top roll and 32-inch suction bottom roll. The third press has a 40-inch top roll



Wet end of No. 3 paper machine on which West Virginia first produced Clupak commercially.



Press section has suction pickup, suction transfer press, and suction second and third presses.

and 42-inch diameter suction bottom roll.

There is about 7000 c.f.m. vacuum pump capacity per press, about 10,320 c.f.m. capacity on the high couch suction box and about 10,500 c.f.m. capacity on the low couch and wringer press suction boxes.

The machine has three dryer sections with a total of 48 paper dryers, 12 f[illegible] dryers and six dryer felts. The dryer rolls are all 60 inches in diameter. There are 21 dryers in the first section, 15 in the second and 12 in the third section. Steam can be furnished to the dryers at 35, 60 and 125 p.s.i. A breaker stack and striping press are located between the first and second sections with a 40-inch rubber covered breaker roll, a 39-inch rubber covered, Microroc center roll, and a 40-inch rubber covered striping roll.

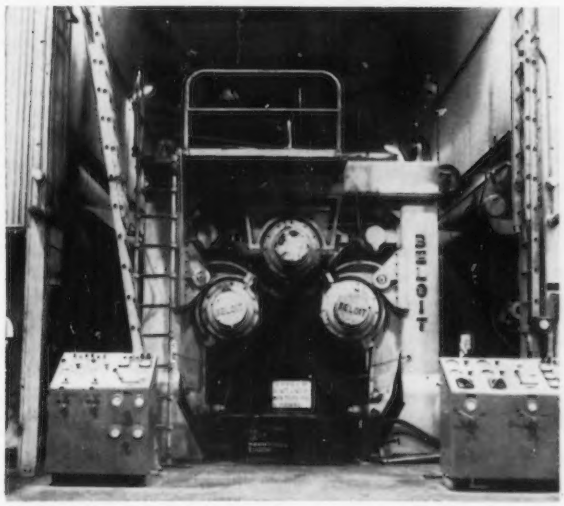
The extensible unit, built by Beloit, is located between the second and third dryer sections and includes a chrome plated dryer, a chrome plated nip roll unit, two 10⅜-inch diameter Mt. Hope rolls and three blanket rolls. The rubber blanket, one inch in thickness, is 248 inches wide by 25 feet long, and was supplied by Raybestos-Manhattan.

There are two calender stacks of open type construction with 40-inch diameter bottom rolls and 18-inch diameter top rolls. The reel, built by Beloit, will handle rolls of paper to a maximum of 72-inches diameter. The winder, supplied by Cameron Machine Co. has a d.c. drive with mechanical braking and operates at speeds up to 6000 f.p.m.

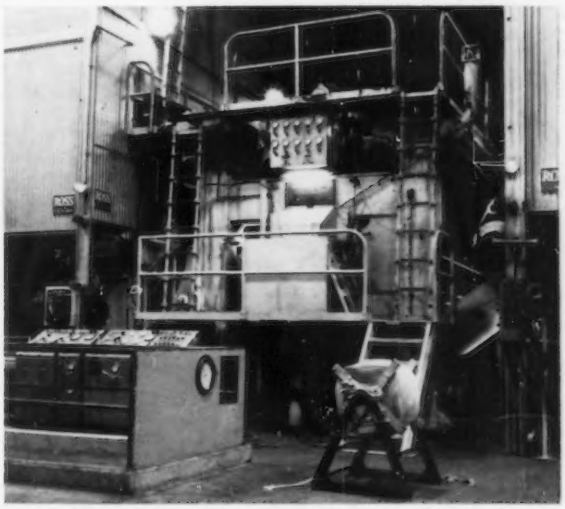
Expansion Program

In addition to No. 3 paper machine, West Virginia's 25 million dollar expansion program included stock preparation equipment for the new machine and additions to the recovery and power systems. No. 3 refiner room has six 44-inch Bauer pressurized refiners, Allis-Chalmers stock pumps, De Zurik consistency regulator and a three stage Bauer stock cleaning system. Each refiner is equipped with a Foxboro magnetic stock flow meter.

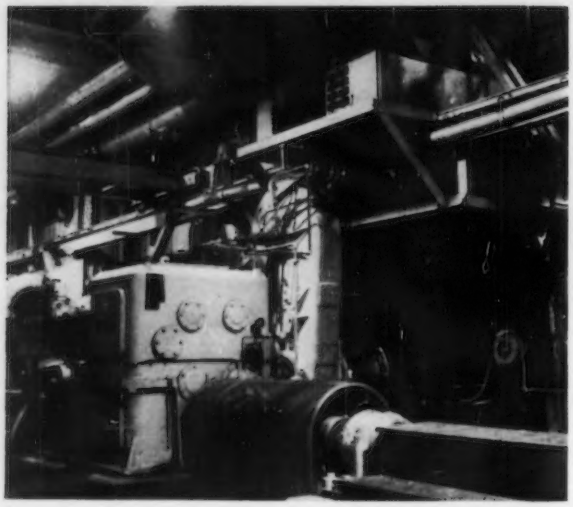
The recovery system was bolstered by the addition of new evaporators,



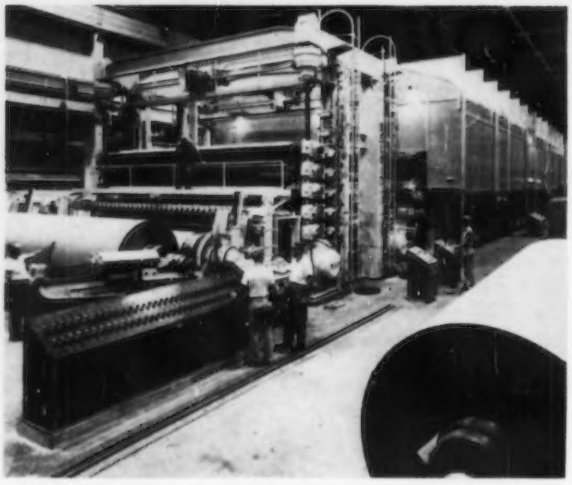
Breaker stack and striping press of No. 3 is located between first and second dryer sections.



Extensible unit, between second and third dryer sections, built by Beloit, was first production installation for Clupak.



Drive side of extensible unit on No. 3. The machine has a differential line shaft drive.



Dry end view of No. 3 which produces standard kraft and Clupak grades at a rate of about 225 tons per day.

a boiler and a precipitator. Goslin-Birmingham supplied the sextuple effect (Six body) evaporators with stainless steel tubes in the first two effects. The capacity is sufficient to evaporate 360,000 lbs. of water per hour. The boiler is a Babcock and Wilcox unit rated at 390 pulp tons per day and steam production of 3,400,000 lbs. per day at 1525 p.s.i.g. and 880°F. This is West Virginia's No. 8 recovery unit. Installed to handle gas flow from No. 8 is a Research-Cottrell electrostatic precipitator designed to recover 95 per cent of the suspended matter. Also installed as part of the expansion program was No. 5 turbine, a 22,000-kva. Westinghouse condensing turbo-generator rated at 13,800 volt. The new power boiler is rated at 350,000 lb. of steam per hour at 1500 p.s.i.g. and 880°F. The boiler will handle coal or oil as a fuel and was built by Combustion Engineering.

Testing for Toughness

While the outstanding characteristic of Clupak paper is its toughness, at the same time it has slightly less tensile strength than conventional kraft. Experience has shown that tensile tests provide only limited information as to the behavior of paper in actual use, and that a major function of paper in packaging is that of absorbing energy. In order to measure this energy absorbing capacity, it is necessary to know both the ultimate tensile strength and the stretch, and the relation between the two factors. This energy-absorbing capacity, which is measured in inch pounds per square inch (surface area) for Clupak paper is several times greater than that of regular kraft of equal weight. To accurately and speedily measure the energy-absorbing capacity of its papers, West Virginia's laboratory is equipped with two Instron electronic testing units, one of which provides a graphical representation of the energy absorbing capacity and the other provides a printed record.

Why a Stretchable Paper?

This quality or ability of Clupak paper to absorb energy has proven advantageous in many applications with more to come. Primarily, applications to the present date, have been in the field of packaging such as for multi-wall bags and grocery checkout bags. Under impact, the Clupak paper bag will absorb shock to a much greater extent than regular kraft. As an outside lamination for high test linerboard in heavy duty corrugated shipping containers, it eliminates scoreline cracking.

In addition to being tough, this paper is a relatively soft and flexible sheet with a level resilient surface which prints well and at 10 per cent stretch does not interfere with accurate register. The paper has high tear strength, resistance to impact, good folding qualities and resistance to cracking. These factors permit the use of lighter basis weights in many applications, hence greater economy. Flexibility of the paper permits bags to adapt to loads and to conform to irregularly shaped objects. This aids in stacking and handling.

The same flexibility that is advantageous in certain respects may also be a problem on some types of converting equipment. Although there have been no particularly serious problems, because of its flexibility the web must be pulled, not pushed, and for this reason some minor modifications may be needed on such equipment as multi-wall tubers and bottomers. Another problem has been that some adhesives cause puckering, but this was easily remedied by the use of smaller quantities of the right adhesive at higher solids content. Difficulty with shingling on the conveyor has also been experienced, but easily overcome.

Wider Use Expected

With a big investment in research, product development and two production machines at the Charleston mill, West Virginia obviously feels that Clupak is destined to become one of the most useful, versatile and widely employed papers ever invented. Backing up this belief, they are contemplating another step to broaden the horizons of stretchable paper with the installation of an extensible unit on a machine producing white papers at one of the company's mills, probably Tyrone, Pa.

this paper was treated with

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How Infra-Red Heating Is Used To Increase Production at A.P.M.

M. R. Pallavicini,
Electrical Design Engineer,
Australian Paper Manufacturers, Ltd.,
Melbourne, Australia

When paper machines reach the limit of their capacities, management is frequently confronted with the task of satisfying the increasing needs of customers without immediately building a new machine. Market conditions might not justify major construction for a number of years, but good will with the customer must be maintained, otherwise markets may be lost. In this situation, Australian Paper Manufacturers, Ltd., is overcoming certain limitations to machine operation, e.g., limited drying capacity or poor press performance, by the installation of infra-red heaters. These can be energized by electricity or gas, and can be mounted directly on the paper machine. Experiments with different types of electric and gas-fired emitters are being carried out. These also include the application of direct flame heating to the sheet.

During the last 12 months, the first electric infra-red heaters appeared on the Australian market and the range of available gas-fired and electrical equipment grows constantly larger.

Improved Press Operation

The first success with infra-red heating in Australian Paper Manufacturers, Ltd., was increased water removal from the sheet on its Fairfield No. 3 machine. This machine is a 168-inch M.G. machine making M.G. lithos, bleached bag krafts, sulphites, etc.

An American type electric infra-red heater, made under licence in Australia, was used. It consists of an extruded aluminium body, reflector insert and sheathed element operating at approximately 800°C. The element consists of a non-scaling, non-corrosive alloy sheath solidly packed with magnesium oxide of high purity. A resistance spiral is embedded in the magnesium oxide. The sheath is insulated from the live spiral and is earthed so that there is no danger of electrical shock through contact with the sheath. Forty-eight of these heaters with a total output of 144 kw. were mounted between the suction couch and suction press. Sufficient clearance had to be provided between adjoining components, as expansion and contraction of the individual parts is considerable.

A comparison of typical press performance with and without the infra-red heater is shown in Table I.

The temperature of the water, extracted at the press, rose and with it the temperature of the fiber. The increase in water temperature and corresponding reduction of viscosity permitted a substantially higher press loading without danger of crushing the sheet. More water was, therefore, extracted at the press. The sheet leaving the press was drier, and the machine could be speeded up. In considering the comparison of sheet moisture percentages after the press with and without infra-red heating, it should be borne in mind that, due to higher machine speeds, the sheet now leaves the wire wetter and enters the press with higher moisture than before. The machine speed recorded for different makes rose by a mean value of 6.8 per cent.

Eliminated Sticking on Pre-Dryer

Another operating problem was partly solved by the application of infra-red heating. In the past, when the first pre-dryer was operated at the full steam pressure available, the wet and cold sheet stuck to the surface of this dryer which had to be run, therefore, at a reduced temperature and thereby limited machine speed. With the reduction of sheet moisture, this sticking has been reduced and a higher steam pressure can now be applied to the first dryer. Convincing proof of the effectiveness of the heater is the increased dampness of the sheet which is experienced at the dry end if the heater is switched off.

TABLE I

TYPICAL PRESS PERFORMANCE OF NO. 3 MACHINE, FAIRFIELD BEFORE AND AFTER APPLICATION OF INFRA-RED HEATING

Product	Nominal Basis Weight lbs./1000 sq. ft.	Temp. of Press Water extracted °F without I.R.	Temp. of Press Water extracted °F with I.R.	Water Removal at Press lbs./hr. without I.R.	Water Removal at Press lbs./hr. with I.R.	Average Sheet Moisture % after Press without I.R.	Average Sheet Moisture % after Press with I.R.	Press Loading lbs./inch without I.R.	Press Loading lbs./inch with I.R.	Machine Speed f.p.m. without I.R.	Machine Speed f.p.m. with I.R.
Litho 'P'	19.2	92	108	3775	5850	65.2	62.1	121	203	220	270
Litho 'P'	16.8	96	109	4410	5560	64.5	62.8	138	179	290	310
Litho 'P'	11.4	96	106	5920	7010	67.0	63.3	125	205	440	455

It is realized that this heater is relatively small and with larger heaters better results might be achieved.

The cost of this particular installation was approximately £A2,000 ($4,500). This cost was recovered easily within one month. However, it must be borne in mind that as infra-red heaters become bigger, more concentrated in area, more tailored to suit the individual job, and more automatic in operation, the cost of the unit naturally goes up, particularly if new transformers and switchgear or liquid gas tanks have to be installed.

Setting the Crepe

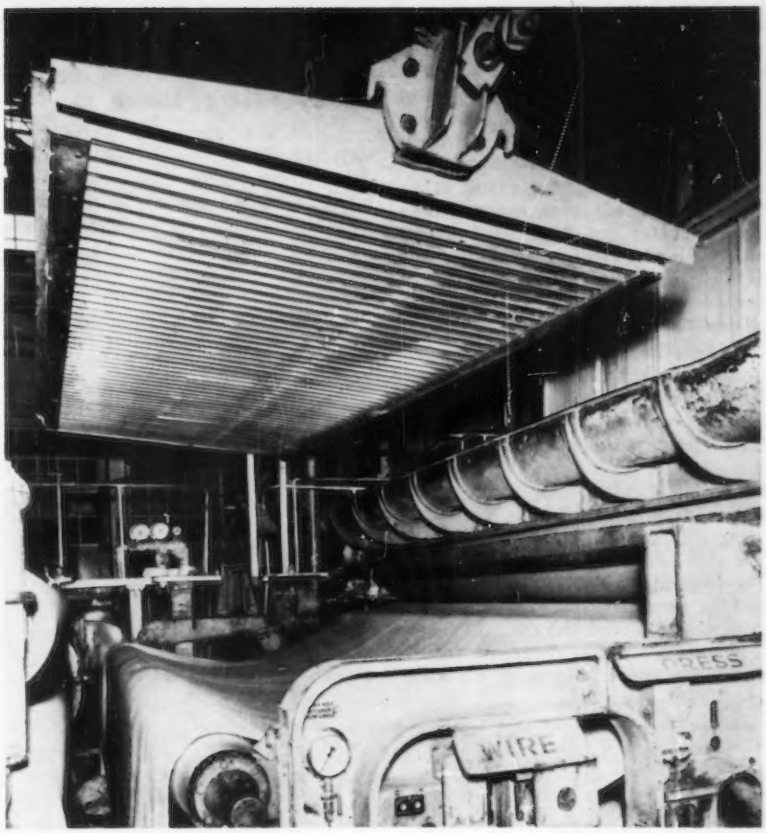
A different advantage has been achieved at another of our mills, namely on A.P.M.'s Botany No. 1 machine which makes crepe towelling. The sheet is creped at the second press and had the tendency to stretch and crease on entering the pre-dryer. A logical solution would have been to sectionalize the pre-dryer drive in order to take up the stretch. Instead of this, a 78-kw. heater was installed between the creping press and the pre-dryer. This resulted in a setting of the crepe, reduction of the undesirable crease in the pre-dryer and a general speeding up of production.

Other Installations

At present infra-red heaters are being constructed or designed for two small machines at A.P.M.'s Melbourne mill. One of these is a fourdrinier machine making colored wrappings and krafts. It will be fitted with an electric heater between suction couch and first press. A considerable increase in production is expected. The other machine is a combined cylinder and fourdrinier machine of 89-inch deckle. On certain grades with a wide deckle, the moisture content at the edges of the sheet is high because extension rings have been fitted to the dryers. To overcome this problem it is intended to mount eight Selas type radiant gas burners radiating on to both damp edges, so arranged as to heat both sides of the sheet equally.

Energy Consumption

The wave length of infra-red radiation useful on a paper machine, is of the order of three microns. The optimum wave length depends on the thickness of the film of water in the stock to be heated. No significant energy is absorbed in the intervening air as in the case of convective heating and no solid bodies are required to transfer heat as in the case of conductive drying, i.e., steam dryers.



Electrical infra-red heater located between couch and suction press on A.P.M.'s Fairfield No. 3 machine.

It has been found difficult to evaluate theoretical knowledge of radiant energy transfer in practical paper mill applications. Empirical values and experiments form a satisfactory basis for the design of infra-red heaters.

The efficiency of the electric heater is estimated at 70 per cent. With recirculation of hot air and combustion products, the efficiency of the Schwank type gas heater approaches 60 per cent. Although these figures may appear somewhat high, it has been found to date that they are reasonably correct. Allowances will have to be made, of course, for different furnishes and basis weights.

The energy density is high and little space is required. Electric heaters used to date on A.P.M. machines have an energy density of only 1.8 kw. per sq. ft. maximum. However, electric heaters are being developed which have approximately three times greater energy density. Gas heaters available on the local market have the following maximum energy densities:

Schwank Heater: 8.8 kw./sq. ft. Heat conversion: 50% radiant, 45% convective, 5% combustion products.

Selas Type Radiant Cup Burner: 40 kw./sq. ft. Heat conversion largely convective with smaller amount of radiation — exact figures are unknown.

Direct Contact Flame Line Burner: 160 kw./sq. ft. Heat conversion by direct flame contact, flame radiation and large amounts of convection— exact figures unknown.

Method of Installation

A.P.M.'s heaters are fully interlocked with the machine drive and with electronic break detectors, ensuring maximum safety. Warning lights indicate when heaters are switched on.

All heaters are mounted so that they can be easily removed by an overhead travelling crane to facilitate machine maintenance. If possible, heaters are designed so that no removal, or only a slight raising, is necessary for ordinary felt or roll changes. Equipment. is being designed which will raise a heater quickly by a few inches. This gear will operate immediately on the tripping of the break detector and will

Mother and daughter read the same page ... and there's no

make tail feeding easier and safer.

At each felt or wire change, the heaters are inspected and general maintenance is carried out. It is intended to change electric elements and ceramics once each year. Special copper wiring with heat-resisting insulation is used. Each element is individually fused. This ensures continued heater operation if one element fails and renders the equipment safe from disintegration due to breakdown to earth of one or more elements.

So far, the inverted mounting position above the sheet has been preferred. This eliminates the danger of fire as might happen should any broke fall into a heater located below the sheet. Therefore, with each heater particular care is taken to ensure that no materials can drop on to the sheet and possibly damage the presses and interrupt production. The Melbourne No. 1 machine heater will be mounted in a 'vertical' position between the dryers. However, it is considered that future mounting under the sheet (necessary on some cylinder machines) is possible with adequate interlocking.

Choice of Energy Source

A.P.M.'s larger mills have their own industrial power stations and in these circumstances electrically energized infra-red heaters have proved attractive. However, with the establishment of large oil refineries in Australia, propane is available in abundant quantities from aviation fuel alkylation, and the various gas and oil companies are prepared to freight this liquid gas by road, rail or skid tankers to anywhere within the eastern states of Australia. Gas as a source of energy may, therefore, become a serious competitor to electricity. An experimental test set for various types of gas burners, mounted on a trolley, is at present being applied to various A.P.M. machines.

Conclusion

Infra-red heating helps Australian Paper Manufacturers, Ltd., to overcome certain production bottlenecks.

The equipment is comparatively small, cheap to install, efficient, and if necessary can be transferred to other machines. Benefits have been obtained from increased water removal, improved pre-drying, correction of uneven moisture across the sheet and the setting of the crepe of paper towelling. Other aims in prospect include faster drying of glue on pasted boards and a reduction of positive static electricity.

Acknowledgement

Infra-red heating is a typical problem requiring close co-operation between engineers, papermakers and chemists. A.P.M.'s endeavors in this direction were the result of such team work.

The performance figures for A.P.M.'s No. 3 machine at Fairfield were obtained from an investigation carried out by A. G. Griffiths, a member of A.P.M.'s technical staff, whose helpful co-operation is acknowledged herewith.

PJT NEW LITERATURE

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Contains full-color illustrations of these tanks which are, in effect, steel-reinforced concrete structures faced on both sides with vitrified tile, laid with corrosion-resistant mortar. Bulletin AET-59. Stebbins Engineering & Mfg. Co., Watertown, N. Y.

How to Sharpen
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Shows the step-by-step procedures for both grinding and honing knives. 4-page 2-color wall chart. Also includes recommended cutting angles for paper stocks, etc. Simonds Worden White Co., 1101 Negley Pl., Dayton, Ohio.

Northern Hi-Lift
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Includes photographs, engineering data, dimensions and discussion of heavy duty features. Catalog. Northern Engineering Works, 210 Chene St., Detroit 7, Mich.

Syntron Electric
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Covers specifications and analyses, effects of alloying elements, mechanical properties and arc welding procedures. Bulletin FB-78. Babcock & Wilcox Co., Tubular Products Div., Milwaukee 46, Wis.

B&W Croloy
25-12

Describes its high temperature properties, chemical composition, size ranges, and short time tensile and rupture properties. Technical Data Card 192. Babcock & Wilcox Co., Beaver Falls, Pa.

A-C Adjustex
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Contains illustrated sales copy and dimensions. These sheaves are offered in all popular pitch diameter sizes and a new "C" section size, and are made in 2, 3, and four grooves for use with A, B or C section belts. Bulletin 20B9125. Allis-Chalmers Mfg. Co., Milwaukee 1, Wis.

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Analyses in Visual
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Describes available services in the testing of advertising design and copy, and the visual and psychological aspects of package design. Also includes brief descriptions of other services rendered. Bulletin 5903. U. S. Testing Co., Inc., 1415 Park Ave., Hoboken, N. J.

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6709

Simple Charting Method Used To Study Finishing Operations

C. E. Patch,
Morton C. Tuttle Co., Boston, Mass.

In making an analysis of a finishing operation, a simple charting method was found useful in determining how much the trimmer produced and why it did not produce more. One of the problems was that different people looking at the same operation had entirely different ideas as to how effectively the workers were employed. The procedure used, which is described below, resolved these questions, and since it is applicable to many types of industrial anaylses will serve as an example.

The finishing operation was typical for the counting, inspection, trimming and piling on skids of fairly large sized sheets. There were five sorting stations with transfer tables next to a conveyor, and skids of paper to be inspected were set down outside these tables. There were a pair of girls at each station so that when the operation was in full swing there were 10 girls fanning the paper to count and detect defects. When a lift, which was probably two reams deep, was built up on the transfer table it was slid off onto the conveyor which transported it to the trimmers. Here it was pulled onto a castered transfer table and moved to the face of the trimmer and pushed in against the back board for the first cut. The operator of the trimmer has a helper who assists in transferring the lifts from the conveyor to the trimmer, helps in turning the lifts and disposes of the broke.

One man's impression from his observation of the operation was that there were more girls than needed on the inspection job. The impression of another man was that the girls did not supply paper up to the capacity of the trimmer. So far as could be learned the mill had no men familiar with the techniques of time study. In order to form an opinion which would be based on factual information a simple charting method was used.

Charting Method

Shown in Figure 1 is a section from the chart which covered one complete shift. The chart is made on three sheets, each of which is standard 8½ x 11 inch size and during the making of the observations is carried on a spring clip board. To the clip is tied an ordinary watch which is nearly in line with the chart.

Across the top of the chart are arranged numbers indicating each minute of an hour in 15-minute stages. These are a visual guide to the time when any operation is made. Below these figures the chart is divided into 15-minute bands, the starting minute of the band being entered at the left hand end of the band. There are four horizontal divisions in each 15-minute band. The chart is divided into 15 vertical bands, each one representing a minute, and each minute band is divided into quarter minutes. One soon becomes adept at estimating the thirds in these quarter-minute spaces which gets down to five seconds. This is not accurate enough to set piece rates but is close enough to make a study of what goes on around a machine to aid or impede its production. All the method really demands is concentration and a fairly quick eye at reading a watch.

Before starting a record one should observe the operation and make perhaps a preliminary 15-minute record so as to decide what symbols to use and what each of the four spaces in a 15-minute band will be used for. For instance, in making this trimmer study—

(1) It was decided that the top space would be for recording the time when the lift was in the trimmer. The preliminary information indicated that the delivery from the trimmer to the carry-away conveyor was so short that it might better be lumped with the trimming time. As long as this is understood, it does not invalidate the value of the observations. If desired, the delivery time could be studies with a stop watch and be deducted.

(2) It was decided to let the second space record the time taken to pull the lift from the conveyor to the transfer table, move the table to

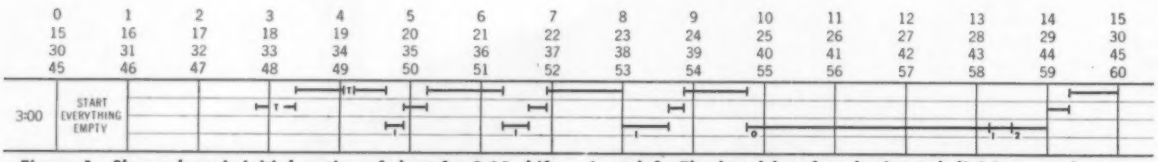


Figure 1. Shown here is initial section of chart for 3-11 shift. Numbers at top indicate each minute of an hour in 15-minute stages. Starting minute (here 3:00) for each 15-minute band is at left. The band has four horizontal divisions used to record the time required to perform four separate operations. Length of dashes represent time required for operation.

Figure 2. Shown here is a 15-minute band from chart, beginning at 3:15. First horizontal space (1) is for time when lift is in trimmer. Second space (2) represents time to move lift from conveyor to backboard of trimmer. Third space (3) is for condition on supply conveyor. Fourth space (4) is for condition on take away conveyor.

SUMMARY OF TRIMMER STUDY

3 to 11 p.m. Shift
April 24, 1959

	Time	%	
Transfer conveyor to trimmer	91.05	19.03	61.80
Trimmer & putting on conveyor	205.75	42.77	
Trimmer down—no paper at hand	85.45	17.81	
Trimmer down—no place to put it	10.85	2.09	
Trimmer down—checking quality of paper	6.60	1.38	
Trimmer down—talking with other help	3.50	.73	
Trimmer down—talking with supervision	.30	.06	
Trimmer down—hesitation	.15	.03	
Trimmer down—skid accident attracted attention	.20	.04	
Trimmer down—adjusting trimmer (1)	.20	.04	
Trimmer down—waxing table (2)	.55	.11	
Trimmer down—shift change	8.10	1.69	
Trimmer down—smoking breaks	31.30	6.54	
Trimmer down—supper	36.80	7.68	
	480.00	100.00	

(1) Part of adjusting done while trimmer was down for paper causes
(2) Waxing belt done while down for other causes

Bundles put through trimmer	211	
Total weight	52,647	lbs.
Average per bundle	250	lbs.
Average time to transfer	.432	min.
Average time to trim & deliver	.975	"
Average cycle	1.407	"

the trimmer and shove the lift to the back board.

(3) It was decided that the third space would be used to record the condition on the supply conveyor, making a solid line at any time when there was no paper within reach of the trimmer crew. It was also possible to note in this space how many lifts of paper happened to be on the conveyor at any time.

(4) The fourth space was to be used to record when the take away conveyor was so loaded that the trimmed lift could not be removed from the trimmer.

If there had been another observer, with a watch set to match that of the first observer, a correlating study could have been made of the fanning crews to determine what may have hindered them from keeping the trimmer loaded.

Scanning the Chart

With these explanations in mind, scan the chart. The shift was that from 3 to 11 p.m. Note that activity did not start until 3.0285 and that at 3.03 there was a talking interruption during the transfer of the lift from the conveyor to the trimmer. There was another talking interruption while trimming at 3.0405. At about 3.047 there was no paper available but there was 1 lift approaching on the conveyor which could be transferred at about 3.049. There were short delays due to lack of paper at 2.063 and 3.08 and a long delay started at 3.0975. I think this brief scanning will allow the reader to continue the analysis of the chart.

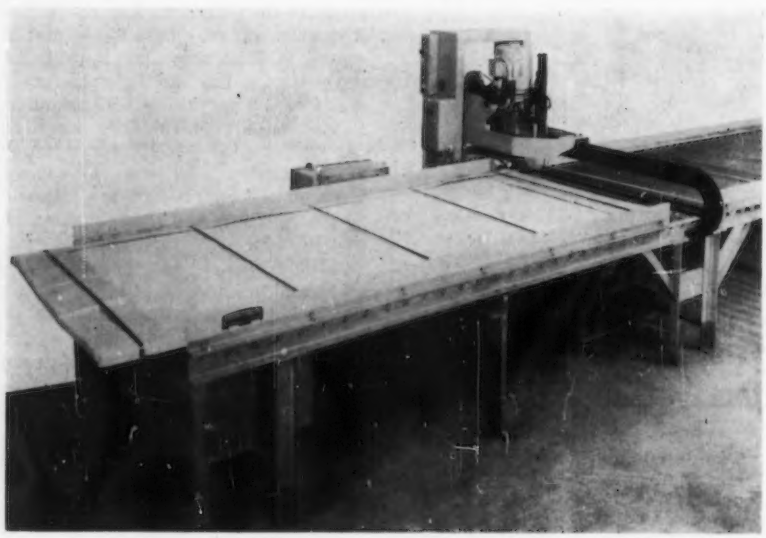
Time Analysis

To turn these lines into a time analysis the following graphic method is used. Take the 3.15 p.m. band as an example. A narrow strip of paper, a little longer than the 15-minute overall on the chart is used for the take off. Place the end of the strip on the left hand end of the first mark in the transfer space and make a mark at the right hand end. Then move this mark to the left hand end of the second mark in the transfer space and make a mark at the right hand end. Repeat this process until all the transfer times are end to end on the strip, then make an X on that line and measure it on the chart scale and it comes to 2.20 minutes. Then starting from this line with the X, mark off the lines in the trimming space in the same way and measure the distance between the two X marks on the chart scale and it comes to 6.50 minutes. Repeat for the marks in the "no paper at hand" space which measures 6.05 minutes. Repeat again for the only mark in the "no place to put it" space which is .25 minutes. Now place the narrow strip on the chart with the left end at the 3.15 line and the last X mark will be found to come on the right hand 3.30 line. If not then the take-off should be checked. It is surprising how seldom this graphic take-off of the 15-minute periods goes amiss. These 15-minute figures are entered in columns under the proper headings and all the lines from the chart added to give the shift totals.

A summary of one shift on the trimmer as studied is shown in the accompanying table. This is of course but a spot check, but is indicative of what the trimmer produced and why it did not produce more. It would be well to have more studies of the same trimmer to determine if the one isolated study fairly represented the true conditions.

This presentation is not to give the analysis of this particular operation but to indicate a method of study which is believed to be helpful in making industrial analyses.

NEW EQUIPMENT & SUPPLIES



Strapping Machines Can Be Operatorless

Signode's semi-automatic or fully automatic operatorless Model M20 series strapping machine employ a straightforward machanical design with power supplied by a standard electric motor. Unlimited strap chute size and strap take-up accommodates all sizes and shapes of containers.

Stepless adjustment of strap tension is from 50 lbs. minimum to the maximum tensile strength of the strap for most sizes. Maximum tension with a three horsepower motor is 1600 pounds. Strap tension is applied smoothly without impact, regardless of the stiffness or hardness of the bundle. Strap feeding and strapping speed is rated at 196 ft. per minute. Strap size: 3/8 inch x .010 inch to 3/4 inch x .035 inch.

The machine may be mounted in any position. Straps may be applied in either a vertical or horizontal plane, with no limitations in respect to placement of the seal.

Other features claimed for the machine are: minimum face dimension for bundle approximately one inch; overlap of strap ends under seal is positively controlled and is only 1¼ inch, eliminating possible waste of strap; stretching wheel is of the self energizing type requiring no adjustments; no movement of the bundle or package relative to the machine is required during the strapping cycle; and no mechanical adjustments are required or possible, except for tension adjustment as noted above which remains constant for any given setting.

Several machines may be ganged, so that multiple straps may be applied automatically and simultaneously to a single package. For further information write Signode Steel Strapping Co., 2600 North Western Avenue, Chicago 47, Ill.

Crystalline Wax As Extender

Chemists at L. Sonneborn Sons, Inc., have developed micro-crystalline wax — Multiwax 200 — whose high melting point and hardness make it useful as an extender for polyethylene for use by paper converters.

The pale yellow wax has a melting point of 200° F. and a needle penetration of 5 maximum. Additional information may be obtained by writing: Petroleum Specialties, Inc., 205 East 42nd St., New York 17, N. Y.

Valves Now Plastic Coated

DeZurik Corp., Sartell, Minn., has announced that DeZurik eccentric valves are now available with plastic coatings. The coatings greatly improve the corrosion resistance of a cast iron valve at only a slight increase in price, the company stated.

The plastic coatings are especially suitable for pulp and paper stock, white water, cooking liquor, and corrosive chemicals.

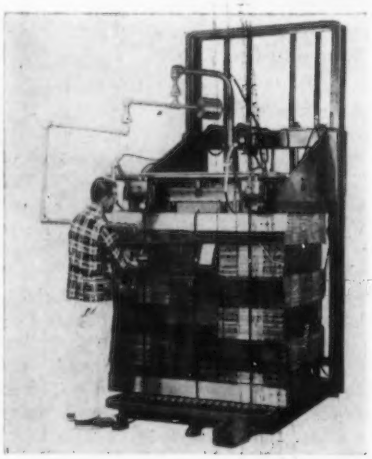
Since the coatings are put in iron valves by an inexpensive method a coated valve is quite economical. They may be used in place of ni-resist, bronze, acid resisting bronze or stainless steel valves. Further information is available from the company.

Air-Powered Press Seals, Cut Straps

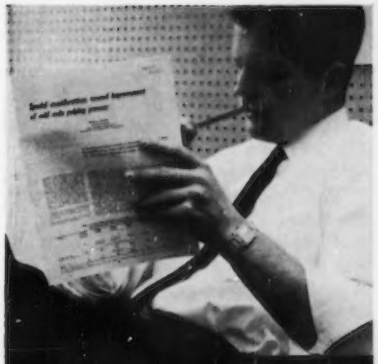
The Acme Steel Model E50 Strapping Press is powered to compress a package and feed steel strapping around it automatically. After compression, strapping is fed all the way around the package and back to the operator at the rate of 4½ feet per second. Compression is maintained until all straps are applied. The E50 is operated by one man at all times.

Several equipment options allow the E50 to be adapted to the strapping of many different kinds of units, states the manufacturer. A maximum of five strap track assemblies can be mounted according to specifications.

Each serves as a channel for the strap when it is fed around the package. One to four strap feed units can be mounted on a trolley and moved right or left to supply the individual strap tracks. Control options for the strapped units are semi-



TWO BULLETINS FROM HOOKER ON COLD SODA PULPING



Special Considerations toward Improvement of Cold Soda Pulping Process. This recent paper gives results from experimental and practical work with southern red oak, white oak, soft maple, elm, ash, and yellow birch pulps.

The work was directed toward ways to improve the quality of paper and boards made from these various hardwoods. Charts and tables summarize data on such liquor absorption factors as pressure, vacuum, particle size, moisture content, surfactants, and presteaming.

This bulletin is a reprint of a paper prepared by Kenton J. Brown, chemical engineer of the Forest Products Laboratory, Forest Service, U. S. Department of Agriculture. Circle 252 on the coupon for a copy.

Cold Soda Pulping of Aspen by Improved Methods describes the results of work done under Hooker sponsorship at the Forest Products Laboratories. It describes a practical process for developing corrugating board and news-type papers from cold steeped aspen pulp. The resulting board shows higher strength properties than four other boards made from commercial neutral sulfite semi-chemical pulp. The paper showed itself suitable in every way for magazine-type book papers. The bulletin discusses the process and its results in detail. Circle 250 on the coupon for a copy.

NEW BULLETIN ON BLEACHING KRAFT PULPS

Three-Stage Bleaching of Kraft Pulps to High Brightness describes a new process for bleaching kraft pulp to 85 to 87 brightness with excellent strength retention and moderate color reversion. The process involves the inclusion of a small amount of chlorine dioxide in the chlorination stage and hypochlorite with the caustic soda in the extraction stage. The process requires minimum capital investment. For a copy of this paper, circle 223 on the coupon.

Bulletins like these are made available by Hooker as part of a continuing effort to be of service and to keep you abreast of important developments in pulp and paper technology.

HOOKER CHEMICAL CORPORATION
1806-2 FORTY-SEVENTH STREET, NIAGARA FALLS, N. Y.

Sales Offices: Chicago • Detroit • Los Angeles • New York
Niagara Falls • Philadelphia • Tacoma • Worcester, Mass.
In Canada: Hooker Chemicals Limited, North Vancouver, B.C.

HOOKER CHEMICALS PLASTICS

Please send me (circle) 252 250 223

Name.....

Title.....

Company.....

Address.....

City..... Zone..... State.....

automatic, foot switch or hand lever.

No pit or superstructure is necessary to install the E50 press, states the company. Overall dimensions: width-63 inches, depth-93 inches; height-136 inches. Complete specifications and equipment options are available upon request. Write for Brochure AD-304, Acme Steel Co., 135th St. & Perry Ave., Chicago 27, Ill.

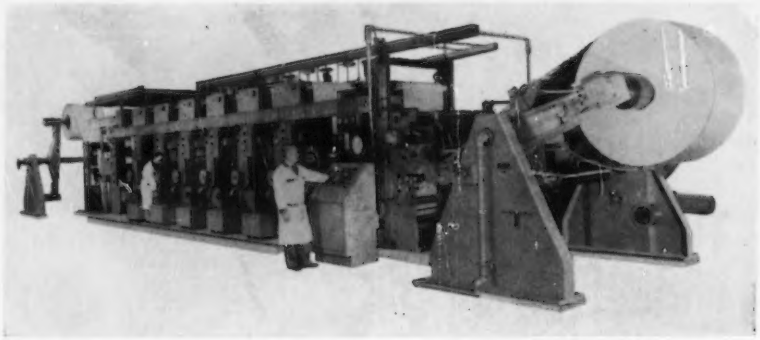
Double Barrel Cutter Slices Rolls 4-for-1

A "double barrel" log cutter, a fully automatic device for slicing long rolls of toilet tissue or toweling into household sizes, has been developed by Appleton Machine Co., Appleton, Wis. The double-roll, double-

cut feature permits the machine to turn out twice as many small rolls—160 per minute—with the same number of strokes as any log cutter previously available.

The cutter saws double sets of rolls simultaneously from the ends of the logs. This is accomplished by a toothless hand knife which actually makes four separate cuts—two on each roll—on the down stroke. Each forward movement of the push type feeder is nine inches as opposed to four and a half inches found on single log cutters, report company engineers.

An added benefit of cutting rolls four-at-a-time at nine-inch intervals is the additional "bite" the clamping vice can achieve. The log cutter clamps the parent roll for the full nine inches and over 360 degrees. The machine also features automatic self-sharpening of the band knife without down time. Also available with the log cutter is a roll accumulater for automatically loading parent rolls onto the double barrel slides.



Rotogravure Press Prints Roll to Roll

Mercury Engineering Corp., 2100 No. Farwell Ave., Milwaukee 2, Wis., announces the premier of its J-4 rotogravure printing press. Carton printing is done roll to roll and the preprinted rolls are electronically registered in a reciprocating platen-type cutting press as a separate operation. The J-4 printer is fully capable of printing in up to 8 colors, 80 to 160 tons of carton stock per 2-shift day.

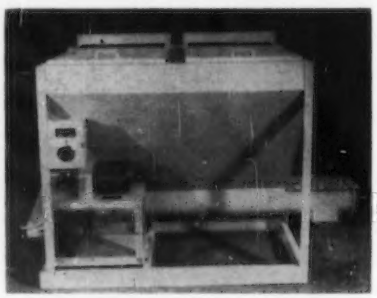
Standard press units include: turnover-type stock roll stand; butt splicing unit; prefeeding unit; infeeding unit; six printing units; Gardner-Overly drying system; rewinding unit; electro-hydraulic drive; scan-a-web inspection device.

The total drying section between colors is only 30 inches; thermal efficiency is said to be 92 per cent. The dryer system is equipped with pneumatic control of air volumes of both input and exhaust at each oven unit. A 2.2 million B.t.u. heat exchanger maintains sustained drying temperature of up to 600°F. The input air is directed onto the web at high velocity and volume (15,000 lineal f.p.m.) and with a six color dryer, circulates approximately 10,000 c.f.m. of super heated air.

Idler rolls are driven and so located that no more than four feet of web is ever left unsupported. They are mounted in friction-free ball or roller bearings and are dynamically and statically balanced.

Other specifications are: unwind and rewind diameters; paper, 48 inches; paperboard, 84 inches; web width, 20 to 44½ inches; max. operating speed, 1200 f.p.m.; splicing speed, 500 f.p.m.; max. rewinder transfer speed, 600 f.p.m.; approx. gross weight, 150,000 lbs.; web length between colors, 15 feet; total degrees roll wrap between colors, 540°; total h.p. req'd, 140; color to color registration, guaranteed mechanically; ±.003 inches, compensating-type register control; controllable tension in press, 0 to 18 lbs. per lineal inch, automatic pneumatically-loaded dancer roll control at both infeed and outfeed ends; impression pressure, 300 lbs. per lineal inch of web width, pneumatically applied; doctor blade system equipped for Roege and Roehm reverse wipe system.

The press can be equipped with sheeters, flying pasters, embossing stations and provisions could be made for slitting and aniline conversion. Rapid job changeover and walk-in accessibility have been engineered into the machine, emphasizes Mercury.



SPECIALLY DESIGNED SCREW LOADING AND SCREW FEEDING EQUIPMENT to meet widely varying requirements was announced recently by The Bucket Elevator Co. of Summit, N. J. Based on standard component parts, each item is modified to suit the specific job by the addition of special control and operating equipment, or alternate design choices. Illustrated is a 20 cu. ft. capacity bag loading and screw feed hopper feeding powdered chemical at 15 pounds to 120 pounds per hour. The machine has speed adjustment hand wheel and tachometer.

Platform Scales Portable, Stylized

Fairbanks, Morse & Co., Chicago, is announcing a line of portable platform scales. The following exclusive features are offered: enclosed wheels for safety and cleanliness; offset pillar reduces overall width and increases manueverability; platforms completely free of checking; recessed counterpoise; self-aligning hardened tool steel "V" bearings; styling.

The equipment is furnished in turquoise and black. Capacity of 1000 pounds, platform 18 inches x 27 inches and furnished with four different weigh-beam modifications. Single beam Model 1124A, Drop lever Model 1174A, Double beam Model 1280A and Duplex Model 12064A. Bulletin ASME520.1 provides full description and may be obtained from Fairbanks, Morse & Co., 600 South Michigan Ave., Chicago 5, Ill.

Continuous Felt Cleaning on Machine

An odorless, neutral liquid cleaner which scours out perfectly and permits the cleaning of felts while making paper is available from Harry Miller Corp., 4th & Bristol Sts., Philadelphia 40, Pa.

Potentol-treated felts will reportedly be soft and clean at all times, prolonged in life, work better, and felt marks will be eliminated. Potentol dissolves in any water, is unaffected by lime, magnesium, or aluminum salt solutions, and it will not corrode iron, steel, brass, or copper. No boiling or special preparation is required. Potentol can also be added to the coating mixture to make it spread more uniformly, it is claimed.

No Maintenance Cost!

Fibercast®

PIPE and FITTINGS

—WILL NOT CORRODE!

You can throw the paint brushes away when you install Fibercast pipe and fittings... because Fibercast's exterior as well as interior is non-corrosive. This saves the need for routine—and costly—protective painting of the piping system.

Fibercast easily handles extremely hot, corrosive solutions—up to 300° F. with operating pressures to 1,000 p.s.i.

Proof of Fibercast superior performance is that Fibercast handles 320 out of 338 common corrosive solutions without deterioration.

Other Money-saving FIBERCAST ADVANTAGES:

- Smooth interior with a Hazen-Williams C Factor-147 assures against accumulation of residue, preventing contamination of the stream.
- Light weight — less than ¼ the weight of steel — and nominal 18' support spans contribute to easy installation.
- 3 Major systems of joining — standard flanged — cemented — threaded and coupled with complete line of fittings.

PRE-FABRICATING SERVICE, introduced by Fibercast 24 months ago, is proving to be the most practical method of piping system fabrication. Working from your prints, Fibercast engineers and piping specialists will design and fabricate the assemblies for simplified installation by plant personnel. This work is done on a firm quotation basis.

FIBERCAST COMPANY
A DIVISION OF THE YOUNGSTOWN SHEET AND TUBE COMPANY
Circle 5-1301 • Box 727 • TWX Sand Springs 480
SAND SPRINGS (TULSA), OKLAHOMA

FIBERCAST COMPANY, Box 727, Sand Springs, Okla., Dept. 969
Send your new Data and Information Bulletin No. 20; also other specific data for _____ application.

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You'll Get Longer Life, Better Performance With

BLACK-CLAWSON X-66 JORDAN PLUGS

High strength, BlaCaloy (ductile iron) castings—precision machined. Special Mox 4 bands hold bars firmly in slots—with a full 1 inch side metal support both sides of bars—full length. Rotation of plug can be reversed for maximum jordan efficiency.

Fillings available in all materials. Full length beads on each side of bars prevent spacers from rising.

Super-Rigid

BULLDOG SHELL FILLINGS

Write for Bulletin 22

The original pre-assembled filling—for all makes of jordans.

Assembled in special jigs for rigidity and perfect symmetry. Every bar and spacer keyed with heavy bands and reinforced for maximum strength.

Shipped to You in a Strong Fibre Container

Lighter, easier and safer to handle. Fillings stay clean and dry. Facilitates storage and inventory checks.

Available only from:

THE BLACK-CLAWSON COMPANY
SHARTLE DIVISION
MIDDLETOWN, OHIO

Prices of Fibers

MARKET WOOD PULP

SECOND QUARTER CONTRACT PRICES PER SHORT AIR-DRY TON

Delivered Basis

	U.S.	Canadian	Swedish	Finnish	Norwegian
Groundwood	$ 82.50/ 90.00	$ 82.50/ 90.00	§90.00/ —	§80.00/ —	§90.00 —
Bleached Gw'd	$ 97.50/100.00	$ 97.50/100.00			
Kraft, Blchd.	157.00/ —	160.00/162.50	§157.00/162.50*		§157.50/ —
Kraft, Blchd. Hdwd.	152.00/ —		§137.00/ —		
Kraft, Semi-bleached	140.00/ —	140.00/ —			
Kraft, Unbl.	117.50/125.00	125.00/130.00	†125.00/130.00	125.00/ —	
Sulphite, Blchd.	155.00/ —	155.00/ —	*155.00/ —	*155.00/ —	155.00/ —
Sulphite, Bl. Hdwd.	150.00/ —				
Sulphite, Unblchd	135.00/ —	135.00/ —	†135.00/ —	*135.00/ —	
Sulphite, Unb'l. Gl'an		140.00/ —	†134.00/ —		
Soda, Blchd.	147.00/150.00	150.00/ —			

§ On Dock Atlantic Ports. * Freight allowed. † Varying Freight Allowances

COTTON LINTERS

F.O.B. OIL MILLS
WEEK ENDED JUNE 18

	Atlanta	Memphis	Dallas	Los Angeles
Grade 1	n.a.	n.a.	n.a.	n.a.
2	n.a.	n.a.	$ — /6.75	7.50/7.25
3	$7.50/6.50	$7.50/7.00	6.25/5.75	7.00/6.75
4	6.50/5.50	6.25/5.75	5.50/5.00	6.50/6.25
5	5.50/4.50	5.25/4.75	4.75/4.50	5.75/5.25
6	4.50/4.00	4.50/4.25	4.00/3.75	4.25/3.75
7	4.00/3.00	4.00/3.00	3.25/2.75	3.00/2.75

WASTE PAPER MARKET

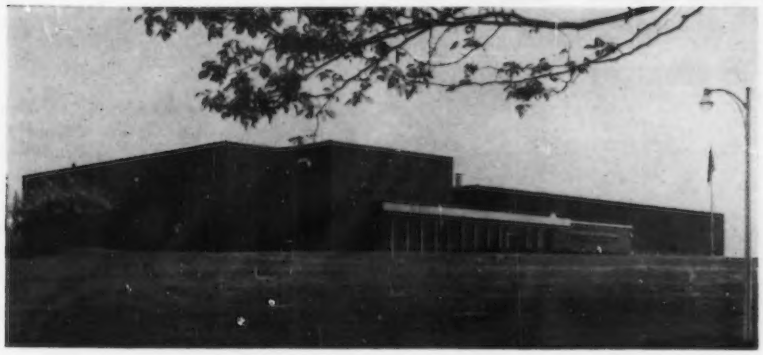
Mill Prices, f.o.b. Trucks Shipping Point — Includes Brokerage

These quotations are a partial indication of the price range on volume tonnage in each market on the date specified, as gathered from major dealers and brokers. SPECIAL PACKINGS AND SPOT TONNAGE NOT INCLUDED. Prices nominal.

	New York	Boston	Chicago	Los Angeles
	June 22	June 22	June 22	June 22
No. 1 Mixed Paper	$ 10.00/ 12.00	12.00/ 14.00	9.00/ —	13.00/ —
No. 1 News	14.00/ 15.00	15.00/ —	18.00/ —	18.00/ —
Overissue News (Lg. size)	13.00/ 15.00	12.00/ 14.00	23.00/ —	20.00/ —
Mill Wrappers	19.00/ 22.00	13.00/ 15.00	14.00/ —	15.00/ —
Old Corrugated Containers	24.00/ 25.00	23.50/ 24.00	23.00/ —	23.00/ —
Super Resorted Kraft Paper	35.00/ 40.00	— / —	35.00/ —	55.00/ —
New Double Kr. Ld. Corr. Cuts	35.00/ 37.50	37.50/ —	37.50/ —	35.00/ —
(Semi-chem. medium)	47.50/ 50.00	45.00/ 50.00	45.00/ —	36.00/ —
New 100% Kraft Corr. Cuts	40.00/ 42.50	— / —	57.50/ —	— / —
New Br. Kraft, Env. Cuts	70.00/ 75.00	70.00/ 75.00	52.50/ —	55.00/ —
New Br. Kr. Bag Waste Prntd.	55.00/ 60.00	55.00/ 60.00	52.50/ —	55.00/ —
New Br. Kr. Bag Waste Unprintd	60.00/ 65.00	65.00/ 75.00	60.00/ —	60.00/ —
No. 1 Groundwood Shvs.	25.00/ 30.00	25.00/ 30.00	24.00/ —	35.00/ —
White Newsblanks	60.00/ 65.00	48.50/ 55.00	45.00/ —	55.00/ —
No. 1 Soft White Shvs.	60.00/ 65.00	60.00/ 65.00	55.00/ —	70.00/ —
Super Soft White Shvs.	65.00/ 75.00	75.00/ 85.00	65.00/ —	— / —
Hd. White Shvs.	85.00/ 90.00	90.00/100.00	85.00/ —	95.00/ —
Hd. White Env. Cuts	100.00/105.00	105.00/115.00	90.00/ —	113.00/ —
Col. Tab. Cards	55.00/ 57.50	55.00/ 57.50	52.50/ —	40.00/ —
Manila Tab. Cards	77.50/ 80.00	77.50/ 80.00	75.00/ —	65.00/ 70.00
No. 1 Col. Ledger	40.00/ 45.00	37.50/ 42.50	47.50/ —	35.00/ —
White Ledger	60.00/ 62.50	60.00/ 65.00	60.00/ —	55.00/ —
Mixed Book & Mag.†	25.00/ 28.00	— / —	17.00/ —	— / —
No. 1 Books‡	30.00/ 32.50	24.00/ 26.00	35.00/ —	17.00/ —

† Includes Time & Life; no coarse groundwood. ‡ Not to exceed 10% of groundwood.

NEWS OF SUPPLIERS



HARBISON-WALKER REFRACTORIES CO. unveiled its new $2 million Garber Research Center in Pittsburgh. The Center is divided into two main buildings with offices and instrumental research in one and the pilot plant for product development in the other. The Garber Research Center was named in honor of Earl A. Garber, Harbison-Walker's president, under whose administration much of the company's expansion has taken place.

Western Precipitation Corp. has announced appointment of Ray Hermanson as advertising and market research manager.

Mr. Hermanson was formerly associated with Proto Tool Co. and Brea Chemicals, Inc., i.. sales and advertising capacities.

Western Precipitation Corp. is a leader in the field of industrial dust and fume control with national and international distribution.

Ray Hermanson

D. B. Wicker

Huyck Felt Co., Renssalaer, N. Y., and Aliceville, Ala., announces the appointment of Dan B. Wicker as vice-president and director of research and development.

Dr. Wicker attended North Carolina State University, Massachusetts Institute of Technology and received his Ph.D. from the Institute of Paper Chemistry. In the paper industry, he was previously associated with Eastern Corp., and Thilmany Pulp and Paper Co. In his new position, he will be responsible for all Huyck Felt Co. research and development and will supervise the largest and most experienced research development team in the felt industry.

Du Pont's Dyes and Chemical Division has named John J. Barnhardt, Jr., Atlanta dyes sales supervisor of the Southern district office. Harold L. Sager takes Mr. Barnhardt's position as manager of the textile dyes section in Wilmington. Both changes were effective June 1.

Mr. Barnhardt joined the Du Pont company in 1946 as a technical sales trainee at its Dyes and Chemicals Division Technical Laboratory. A year and a half later he was transferred to the Charlotte, N. C., district, first as a demonstrator and later as a dyes salesman. In 1952, he was named dyes salesman in the Greensboro, N. C., territory and early in 1958 became manager of the division's textile section in the home office at Wilmington, Del.

Fischer & Porter Co. has named A. R. Hughes, formerly manager of the Philadelphia district office of Brooks Rotameter Co., to the newly created position of special projects engineer.

Mr. Hughes will aid in the development of new markets for the com-

IDEAL COMBINATION FOR ANY

Conical Refiner

Jones Adapta-Plug

The completely bandless plug for *all* Jordans, the Jones Adapta-Plug is also the strongest, most adaptable, most economical plug ever made.

This revolutionary advance, exclusive with Jones, not only holds bars more securely, reduces slot wear and corrosion, but also cuts hours from the job of stripping and filling.

Before you replace another Jordan plug — ask your Jones representative about Adapta-Plug — or write us direct.

Jones FULBAR SHELL FILLINGS

Fulbar Shell Fillings eliminate keys and wedges. One piece construction fits shell body of any Jordan, simplifies handling, cuts installation time. And the patented No-wave pattern — also exclusive with Jones — has no sharp bar-ends to form strings or lumps.

For improved quality, more economical, trouble-free operation — make your next Jordan filling a FULBAR.

Rigid, one-piece FULBAR easily accommodates to inequalities in shell body of old, worn Jordans — is simpler to install, easier to grind in.

E. D. JONES CORPORATION
Pittsfield, Mass.
In Canada: The Alexander Flock, Ltd., Ottawa

BUILDERS OF QUALITY STOCK PREPARATION MACHINERY

pany. He attended Bucknell Junior College and Pennsylvania State University and is an active member of the Philadelphia Section of the ISA, American Ordnance Society, and the Engineers' Club of Philadelphia.

The Pusey and Jones Corp., Wilmington, Del., manufacturer of paper machinery and other fabricated steel products, announced the appointment of Sidney G. Briscoe as vice president-sales. Mr. Briscoe has been with the company for 24 years, and for the past 5 years has served as general sales manager. Previous to that he represented the company in New England and New York. Mr. Briscoe was a graduate of the University of Maine in 1935 and is a resident of Wilmington.

S. G. Briscoe

W. E. Johnson

V. D. McCarthy

G. H. Stanton

U. S. Industrial Chemicals Co., Division of National Distillers and Chemical Corp., has named Warren E. Johnson, Vincent D. McCarthy and George H. Stanton to fill three new sales management positions which have just been created.

Mr. Johnson, who is appointed director of chemical sales, will have responsibility for industrial alcohol, solvent, heavy chemical, sodium, organic chemical, intermediate and feed supplement sales with the manager of each product group reporting to him. Mr. McCarthy, as director of plastics sales, will have responsibility for management of polyethylene sales, as well as plastic materials the company might produce in the future. Mr. Stanton, who will assume the position of director of field sales later in the year, will supervise the activities of regional sales offices. The three new appointees will report to Mr. Ludlow.

SKF Industries, Inc., announces appointment of William J. Brickley as manager of labor relations.

Mr. Brickley joined the ball and roller bearing manufacturer as assistant labor relations manager in 1957. He succeeds Donald B. Cutler, who joined Sawhill Tubular Products, Inc., Sharon, Pa. A graduate of St. Josephs College, he has attended Ohio State University and Temple University.

Jefferson Chemical Co., Inc., Houston, has appointed John M. Luger to the newly created position of assistant to the executive vice president. In this new position, Mr. Luger's major responsibility will be the preparation of studies on the various areas of management. The appointment is effective July 13th.

Mr. Luger joined Jefferson Chemical in the fall of 1955 as administrative assistant to the sales manager. For the past two years he has been a salesman in the Cleveland, Ohio, sales district.

Mr. Luger was graduated in 1951 from the Massachusetts Institute of Technology with a B.S. degree in chemical engineering. In 1953 he received his Masters degree in business administration from Harvard Business School.

MAGNUS VALVES

offer you

Extra Precision and Extra Performance

for EVERY PAPER MILL JOB

For more than 50 years Magnus Metal has been specializing in custom-built valves for the paper-making industry. These valves are designed and built to meet your exact requirements, whatever they may be — for any of the following types: Blow, Gate, Globe, "Y", Swing Check or Safety Pop.

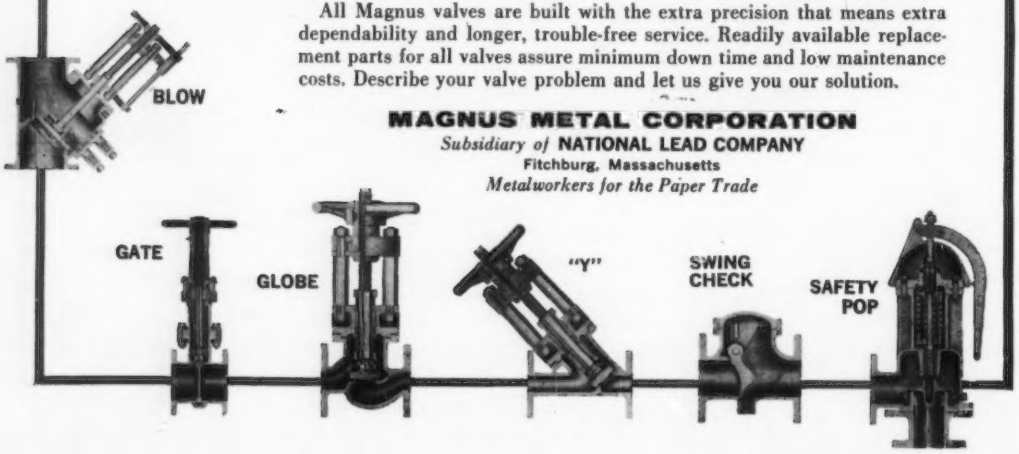
All Magnus valves are built with the extra precision that means extra dependability and longer, trouble-free service. Readily available replacement parts for all valves assure minimum down time and low maintenance costs. Describe your valve problem and let us give you our solution.

MAGNUS METAL CORPORATION

Subsidiary of **NATIONAL LEAD COMPANY**

Fitchburg, Massachusetts

Metalworkers for the Paper Trade



OBITUARIES

Clarence Mongraw, 64, died June 9th after an illness of 7 months. Mr. Mongraw, who was born in Port Hope, Canada, had been a resident of Kalamazoo, Mich., since 1922. He was employed as an engineer for the Allied Paper Co., King Division.

Eli Clinton Miller, 94, associated with the Central Ohio Paper Co. for 65 years before his retirement in 1951, died June 2nd in St. Anthony Hospital, Columbus, Ohio. He had served as traffic manager and officer manager for the company.

Charles Himes, 58, an industrial engineer for the KVP Co., died suddenly June 12th while on a business trip in Cleveland, Ohio.

William G. Stuber, 95, who succeeded founder George Eastman as president of the Eastman Kodak Co. in 1925, died June 17th.

Mr. Stuber ranks among the foremost pioneers in the photographic industry. He joined Kodak in 1894 as an expert in photographic emulsion-making and served the company in an active capacity for 47 years. He retired as chairman of the board in 1941, at which time he was named honorary chairman.

Walter A. Lowe, 54, died suddenly June 15th in Fitchburg, Mass. He collapsed with a heart attack at his office and was dead on arrival at the Leominster Hospital. He was treasurer and general manager of the Falulah Paper Co.

Mr. Lowe was a graduate of Worcester Academy, Wharton School and the University of Pennsylvania.

CHAS. T. MAIN, INC.
ENGINEERS
PROCESS STUDIES, DESIGN, SPECIFICATIONS, CONSTRUCTION SUPERVISION
PULP AND PAPER MILLS
STEAM, HYDRAULIC AND ELECTRICAL ENGINEERING REPORTS, CONSULTATION, VALUATIONS
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Figures of the Week

PAPER PRODUCTION RATIO REPORT—American Paper & Pulp Assn. Figures

(Production as per cent of normal capacity)

COMPARATIVE WEEKLY SUMMARIES

	May 16	May 23	May 30	June 6	June 13
1959	97.4r	96.3	91.6r	97.3r	95.0
	May 17	May 24	May 31	June 7	June 14
1958	87.9	85.7	81.3	82.2	88.4

r Revised.

COMPARATIVE MONTHLY SUMMARIES

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year Avg.
1959	87.8	90.5	93.2‡	94.4‡	95.5‡	—	—	—	—	—	—	—	—
1958	86.9	89.5	89.5	88.4	87.2	87.2	75.3	89.6	86.5	91.6	90.4	93.1	87.1

‡ Preliminary.

COMPARATIVE YEARLY SUMMARIES

	1952	1953	1954	1955	1956	1957	1958	1959
Year to Date	93.9	94.2	93.6	95.8	101.3	95.0	87.1	92.2
Year Average	88.6	92.3	91.6	94.0	97.9	90.9	87.1	—

All of the above data is based on tonnage reported to American Paper and Pulp Association. Does not include mills reporting to National Paperboard Association, except in isolated cases where both paper and paperboard are produced and separate tonnage figures are not readily available.

PAPERBOARD OPERATING RATIOS†—National Paperboard Assn. Figures

COMPARATIVE WEEKLY SUMMARIES

	May 16	May 23	May 30	June 6	June 13
1959	96	95	97	88	98
	May 17	May 24	May 31	June 7	June 14
1958	87	85	83	77	90

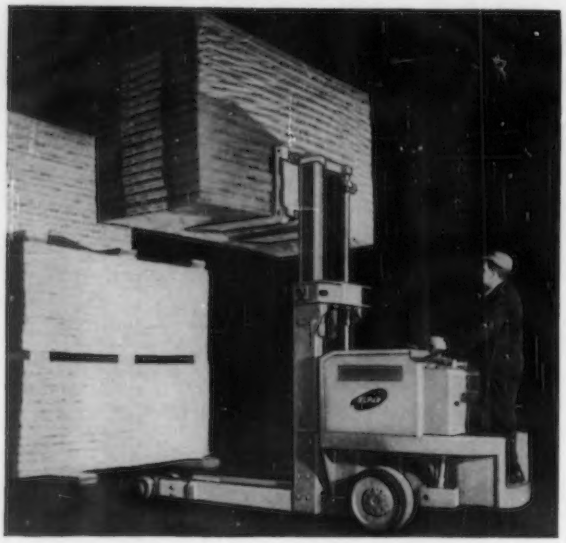
COMPARATIVE MONTHLY SUMMARIES

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year Avg.
1959	86	93	95	93	96	—	—	—	—	—	—	—	—
1958	80	86	88	84	84	86	76	93	90	95	92	81	86

† *Per cents of operation based on "inch-hours" reported on a 6-day basis to the National Paperboard Association.*

SUMMARY OF PAPERBOARD STATISTICS—National Paperboard Assn. Figures

ITEM	THIS WEEK ENDING June 13, 1959	LAST WEEK ENDING June 6, 1959	CUMULATIVE TO DATE Jan. 1 to June 13, 1959 incl.
% Activity	98%	88%	93%
TOTAL	330,025	295,007	7,117,161
Liner	112,623	105,114	2,425,347
Corrugating Material	52,120	43,641	1,079,004
Chip & Filler Board	5,567	5,378	119,479
Total Containerboard	170,310	154,133	2,623,830
Folding	61,093	51,079	1,318,443
Set-Up	12,400	9,154	276,599
Special Food Board	25,168	29,169	656,899
Other	61,054	51,472	1,247,390
Total Boxboard	159,715	140,874	3,493,331
Total Orders			
Received	308,729	348,856	
Unfilled End of Week	528,417	548,933	



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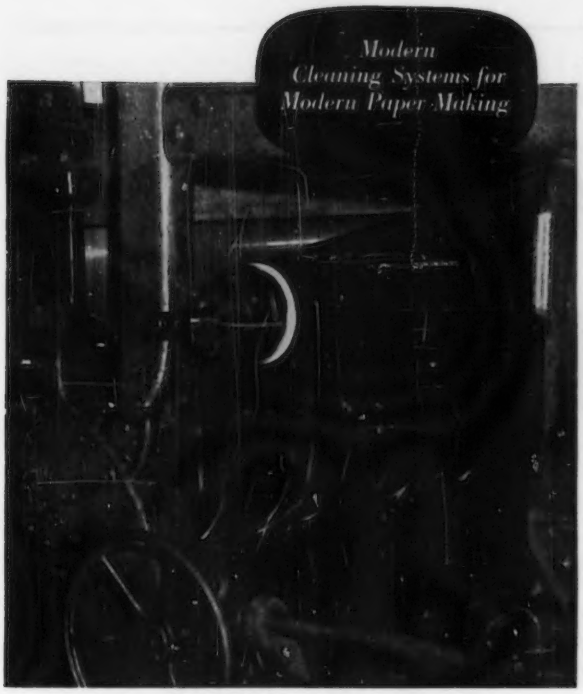

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Excessive downtime often makes washing felts more costly than buying new ones. An Oakite cleaning system solves the problem. It keeps felts in top form—while they're at work!

How? A permanent shower system is installed over the felt. When soils clog felt, a solution of a recommended Oakite felt washing compound is sprayed on, loosening soil, lifting the nap. Clear water rinsing flushes away dirt and solution residues. Felts are left clean, soft and full-napped. They last longer . . . paper is kept free of foreign matter . . . there's no lost time.

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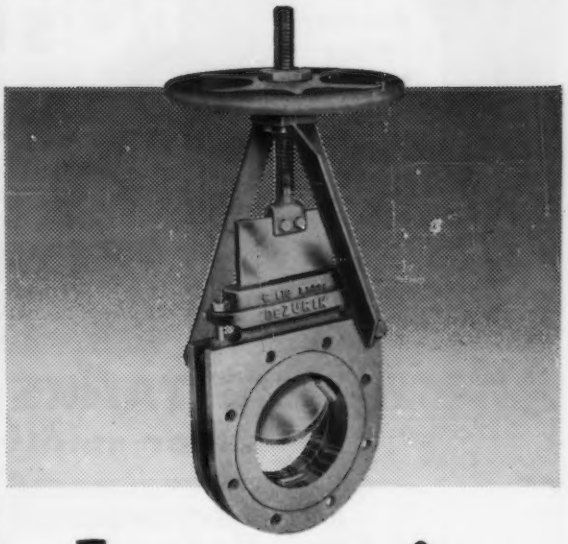
DeZurik Gate Valves



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And there are other advantages! For example, clean out plates and flushing connections are not necessary on DeZurik Gate Valves; their round port bottom eliminates cavities where stock can pack.

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FOLDING CARTON SALES—mill exp—10M
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TISSUE MILL MGR—New England—8/10M
CORRUG CONT ENGR—integrated mill—8/10M

Arden Personnel 11 E. 47th St. NY 17
J-29

Pulp and Paper Mill is looking for an engineer under 45 years of age with a B.S. degree in Mechanical Engineering and a minimum of 5 years of experience. He should have experience in the supervision, administration and planning of maintenance employees in a fully integrated pulp and paper mill.

This engineer is to be in charge of all area maintenance foremen and will be responsible to the Plant Maintenance Superintendent.

Please send resume including education, experience and salary requirements. Write Personnel Manager, American Box Board Co., Filer City, Michigan. J-29

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INDUSTRIAL SALESMEN
WANTED

Well established paper company has good opening for the right men. All replies will be held in strict confidence and our men have been advised of this ad. Write Box 59-196 Paper Trade Journal.

PAPER CHEMIST

We have an opening in our Research Laboratories for a young man interested in paper and paper coating. Some experience helpful but not necessary. We are located in the Adirondack region of New York State where living conditions and natural recreational facilities are ideal. Send resume in confidence to: P. T. Scull, Personnel Department, Imperial Color Chemical and Paper Corp., Glens Falls, New York. J-13

WANTED
ASSISTANT SUPERINTENDENT
TWO MACHINE KRAFT MILL

MUST HAVE EXPERIENCE IN TECHNICAL AND COLORED KRAFT PAPERS. GOOD EDUCATIONAL BACKGROUND DESIRED. ADVANCEMENT OPPORTUNITIES. AGE 30/40. WRITE BOX 59-198 PAPER TRADE JOURNAL. J-6

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J-13

CHEMICAL ENGINEER

Graduate Chemical Engineer for new engineering and development work. Job will require some travel to operating units in North America. Will be located in Southeastern U. S. A.

Applicant must have experience in sulphite pulp process. Experience in recovery of by-products in sulphate and sulphite processes desirable. Age up to 40 years. Good salary and advancement opportunities. Organization has no chemical engineers and is now entering chemical manufacturing field. Our employees know of this ad. All replies treated in confidence. Submit detailed resume to: Box 59-156, care Paper Trade Journal. TF

PROCESS ENGINEER

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Our Process Engineers are part of the mill technical staff working closely with production personnel on problems involving quality control, wastes and efficiencies. These engineers are assigned to specific areas in the mill such as Groundwood pulping, Stock blending, Papermaking or Coating, and are expected to provide guidance and technical advice to the operating superintendents.

Paper Technology, Chemistry or Chemical Engineering background is preferred. Two or three years experience in Process Engineering or mill technical service work is necessary for this position.

These positions are located in Central Wisconsin.

Please give full details and resume in your first letter so that interviews can be arranged. Send to Box 58-195 c/o Paper Trade Journal. J-20

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Graduate Mechanical or Electrical Engineer for new engineering and development work. Job will require some travel to operating units in North America. Will be located in Southeastern U. S. A.

Applicants must have experience with high pressure turbo-generators and boilers. Hydro-electric experience desirable as well as test course experience with manufacturer of electrical or steam equipment. Age up to 40 years. Good salary and promotional opportunities. Our employees know of this ad. All replies treated in confidence. Submit detailed resume to: Box 59-157, care Paper Trade Journal. TF

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PAPER MILL is looking for a GRADUATE ENGINEER, under 45 years of age with a B.S. degree in Electrical Engineering and a minimum of 5 years experience in Plant Electrical Engineering. This man should have experience in medium voltage generation and distribution and low voltage distribution. He must have a good working knowledge of medium and low voltage motor control. Some experience in industrial lighting is also desirable.

This engineer is to have complete charge of all plant electrical maintenance in a plant that generates 20,000 KW of its own power and distributes it to departmental processes ranging from wood processing to three paper machines. He will be responsible in this position to the Plant Maintenance Superintendent. Please send resume including education, experience, and salary requirements. Write Personnel Manager, American Box Board Co., Filer City, Mich. J-29

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1—128" 8 & S 10-Roll Calender Stack. King Roll 24" Dia. Heavy box frames, full set of doctors. Excellent Condition.
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1—Monarch Jordon, Model SP, Serial #21095, no fillings. Direct connected to a 75 H.P. G.E. 400 RPM Motor.
1—No. 3 Jones Pulpmaster, Late Type. Complete Drive.
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3—No. 3 Impco Rotary Knotter Screens. S.S. Plates.
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1—Hudson Sharpe Toilet Tissue Converting Machine. Ser. #2123. 8 Spare Mandrel Bars.
1—42" Dia. x 110" Face Pope Type Reel. Excellent Condition.
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1—86" P & J 7 roll
1—100" Rice Barton 9 Roll
1—115" B-C 7 roll
1—124" B-C 5 roll
1—124" B-C 6 roll
1—128" Downingtown 7 roll

CHIPPERS
1—96" Murray 6 knife; A-F Brng.

COMPLETE MACHINES
3—Sandy Hill 81" trim single cyl. Tissue
1—M & W 3 cyl. 50" trim Board Mill complete

CYLINDER MOLDS
2—63" face x 36" dia w/rubber couches
1—104" face x 36" dia
1—107" face x 48" dia; A-F Brng
2—111" face x 36" dia; A-F Brng
1—132" face x 42" dia; A-F Brng
1—136" face x 54" dia; SS covering

CYLINDER WET ENDS
Downingtown single cylinder; 99" face x 48" dia.; 18" dia. couch; 2 sets main presses.

DRIVES—ENCLOSED RIGHT ANGLE
1—Michigan 92½ h.p. ratio 10.1 to 1
1—50 h.p. Reliance VS with MG set & controls; 850-1200 r.p.m.
2—B-C 75 h.p. Ratio 5 to 1
2—Falk 50 h.p. Ratio 6.31 to 1
1—Beloit 65 h.p. Ratio 2.88 to 1
1—Phila. 28 h.p. Ratio 10.56 to 1
1—M&W 25 h.p. Ratio 6.326 to 1
2—B-C 25 h.p. Ratio 6.25 to 1

DRYERS—HYDROSTATICALLY TESTED
18" Dia.: 1—90" face w/A-F Brng
24" Dia.: 38—46" face; Chrome plated
28" Dia.:
3—70" face w/gears & bearings
3—73" face w/gears & bearings
3—76" face w/gears & bearings
3—77" face w/gears & bearings
2—84" face
2—84" face w/accessories
2—160" face w/rope carriers
36" Dia.:
1—42" face
2—44" face
2—46" face
4—70" face w/gears & bearings
11—72" face w/gears & bearings
1—74" face Lukenweld w/A-F Brng
1—74" face w/gears & bearings
3—75" face w/gears & bearings
9—76" face w/gears & bearings
1—77" face w/gears & bearings
1—78" face w/gears & bearings
2—80" face
5—84" face
4—88" face w/gears & bearings
18—90" face; complete section
1—138" face
10—160" face
42" Dia.:
8—88" face w/gears & bearings
24—102" Face; Complete Section
1—106" face
1—110" face
40—118" face; complete section
1—120" face
1—160" face
48" Dia.:
58—46" face; chrome plated
1—52" face w/gears & bearings
1—82" face w/gears & bearings
5—90" face w/gears & bearings
4—94" face
20—86" face; complete section
10—100" face w/bearings
24—110" face w/frames & bearings
12—123" face w/gears, frames & bearings
1—128" face

EMBOSSERS
1—80" Hudson Sharp; A-F Brng
3—62" Textile Machinery Co.; Reliance Drives

FILTERS—STEEL VATS
1—6' face x 3' dia Dorr-Oliver
1—10' face x 8' dia Dorr-Oliver chemical sludge filter

FLAT SCREENS
2—12 Plate IMPCO w/Dunbar Drives
3—14 plate Shartle; S.S. Vats

INLETS & HEADBOXES
1—156" New Valley w/36" headbox; monel lined

JORDANS
1—Jones Majestic
2—Appleton #1 w/A-F Brng
2—N & W Pony w 75 h.p. motors

LABORATORY EQUIPMENT
1—24" Waldron Coater & Embosser

MOTORS—3 PH. 60 CYCLE
1—100 hp GE; 440 v; 695 rpm
2—100 hp GE; 440 v; 430 rpm
1—350 hp GE; 2200 v; 720 rpm; Synch

PAPER MACHINE DRIVES
1—De Laval 100 h.p. steam turbine w/reducers
1—West. 300 h.p. 2200 volt motor w/all controls and accessories

PUMPS—OPEN IMPELLER END SUCTION
1—Shartle 8 x 16 Triplex
1—Frederick 1800 g.p.m. 36 ft. head
1—Frederick 750 g.p.m. 80 ft. head
1—Frederick 400 g.p.m. 20 ft. head
1—Frederick 750 g.p.m. 35 ft. head
3—De Laval 1200 g.p.m. 25 ft. head
1—Economy 1000 g.p.m. 50 ft. head—vertical
1—Economy 600 g.p.m. 40 ft. head—vertical
1—Economy 400 g.p.m. 30 ft. head—vertical
1—Buffalo 2250 g.p.m. 43 ft. head
1—MDC 1500 g.p.m. 40 ft. head

REELS
1—86" Downingtown two bowl
1—94" Downingtown two bowl; 60" dia rolls
1—100" Kohler automatic two arm unwind reel; 60" dia rolls; new condition
1—116" Downingtown two bowl A/F Brngs.
1—123" Beloit—2 bowl
1—150" B & S pope type w/Reliance drive

REFINERS
2—#1 Claflin; A-F Brng
1—24" Downingtown Weiner; new
1—F24 Bauer w/50 hp motor
2—Shartle Miami Size R4 Cyclifiners w/150 h.p. motors

ROLL GRINDERS—COMPLETE W/MOTORS
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1—157" Masson-Scott; like new

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1—71" Hamblet
1—82" Hamblet w/layboy
1—105" Hamblet
1—110" Hamblet w/layboy

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2—42" Cameron Model 6; 24" dia rewind
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1—60" Langston; shear cut; 30" dia rewind
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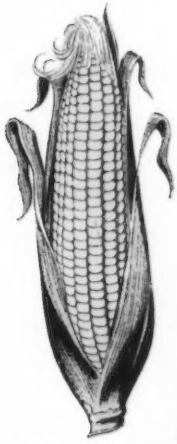

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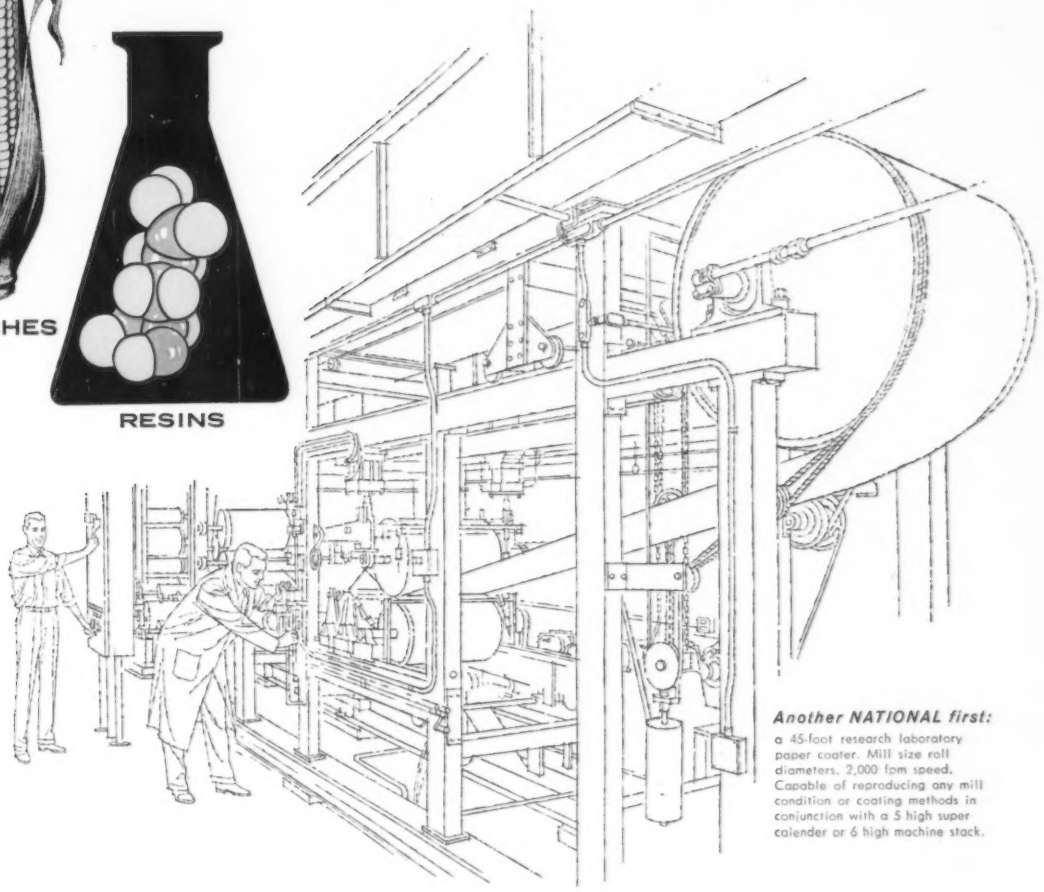

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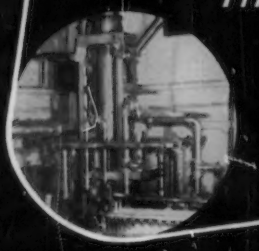
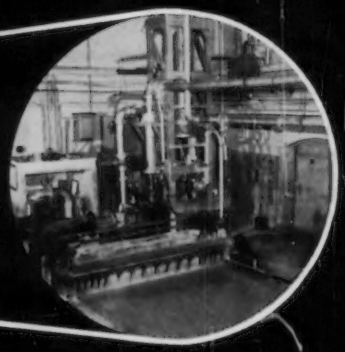
"We're making our finest Glassine— At the fastest we've ever run our machines" . .

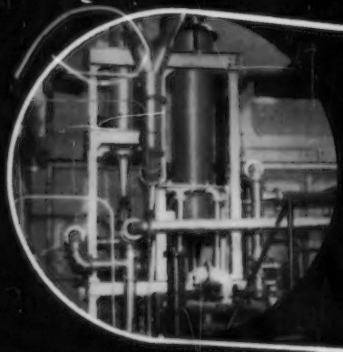
The Nicolet Vorvac Story



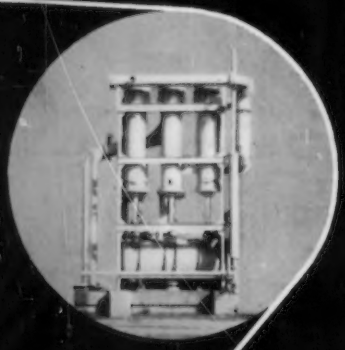
JUNE, 1955, MACHINE NO. 1
Initial Vorvac system started up.



JAN., 1956, MACHINE NO. 2
Vorvac system started up.



JULY, 1958, MACHINE NO. 1
Added a 6-16 Vorvac system and new Head Box, allowing 50% increased water capacity.



DEC., 1958, MACHINE NO. 3
Ordered Vorvac system for this new machine. Will be similar layout to illustration at left.

Investigate the advantages of a Vorvac system, the time spent will save dollars in production costs.

NICHOLS FREEMAN
VORVAC
SEPARATOR

Nichols Engineering & Research Corp.
70 Pine St., New York 5, N. Y.
405 Montgomery St., San Francisco 4, Calif.
1477 Sherbrooke St. W., Montreal 25, Canada